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FARM BUSINESS REPORT . . . 1939



FARMING-TYPE AREA ONE Chicago Dairy Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS



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Annual Farm Business Report

ON EIGHTY SEVEN FARMS IN FARMING-TYPE AREA 1, 1939

By P. E. Johnston, J. B. Cunningham, and E. M. Hughes^{1/}

Farm earnings of accounting farms in Farming-Type Area 1 were higher in 1939 than in 1938 or 1937. The net earnings per acre averaged \$10.64 in 1939, \$9.55 in 1938, \$8.69 in 1937, and \$14.35 in 1936. The items considered in calculating the net earnings included inventory changes, cash receipts, cash expenses, the value of the farm products used in the household (in 1938 and 1939 only), and unpaid family labor (Table 1).

Since the value of farm products used in the household was not included in the records prior to 1938, the earnings for 1938 and 1939 are not strictly comparable to those for other years. The value per acre of farm products used was \$1.43 in 1938 and \$1.41 in 1939.

The accounting farms were larger than average, crop yields were above average, and the farms as a whole were operated with efficiency which was greater than average. Therefore, the figures contained in this report represent conditions which are better than average for this area. This fact is borne out by survey records taken in various areas of the state.

High crop yields and more livestock, accompanied by increased industrial activity and improved demand for farm products, especially during the latter half of the year, were the principal factors producing higher earnings in 1939 (Figs. 1, 2, and 3).



 Farming-Type Area 1
Dairy and Truck

^{1/} R. J. Mutti supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm accounts project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the farm advisers indicated:

J. H. Brock, McHenry County
H. S. Wright, DuPage County
A. C. Johnson, Kane County

D. M. Chalcraft, Boone County
H. C. Gilkerson, Lake County
C. A. Hughes, Cook County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 1, 1936-1939

Items	Your farm	Average of all farms in area			
		1939	1938	1937	1936
Number of farms- - - - -	--	87	78	70	67
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$	\$ -4	\$ 8	\$ 102	\$ 25
Livestock- - - - -		430	87	91	332
Feed and grain - - - - -		374	299	-238	664
Machinery and equipment ^{1/} - - - - -		79	198	216	216
Automobile (farm share) - - - - -		8	-6	--	--
Totals - - - - -	\$	\$ 887	\$ 586	\$ 171	\$1,237
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$	\$ 2	\$ 22	\$ 2	\$ 2
Horses - - - - -		35	64	66	52
Productive livestock: Cattle - - - - -		1,085	1,042	1,005	938
Dairy sales- - - - -		2,130	2,483	3,088	2,793
Hogs - - - - -		492	582	595	753
Sheep- - - - -		86	126	81	140
Poultry- - - - -		91	79	90	143
Egg sales- - - - -		195	212	186	214
Total productive livestock - - - - -	()	(4,079)	(4,524)	(5,045)	(4,981)
Feed and grain - - - - -		414	366	627	583
Machinery and equipment ^{1/} - - - - -		153	167	186	173
Automobile (farm share)- - - - -		23	10	--	--
Labor off farm - - - - -		38	30	56	42
Miscellaneous- - - - -		9	6	5	6
AAA payments - - - - -		311	137	92	73
Totals - - - - -	\$	\$5,064	\$5,326	\$5,079	\$5,912
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$	\$ 289	\$ 322	\$ 417	\$ 320
Horses - - - - -		40	45	87	106
Productive livestock: Cattle - - - - -		747	572	495	435
Hogs - - - - -		86	72	67	72
Sheep- - - - -		61	97	64	108
Poultry- - - - -		37	37	32	44
Total productive livestock - - - - -	()	(931)	(778)	(658)	(659)
Feed and grain - - - - -		517	476	587	504
Machinery and equipment ^{1/} - - - - -		721	883	961	904
Automobile (farm share) - - - - -		110	79	--	--
Hired labor- - - - -		490	503	468	433
Miscellaneous- - - - -		34	25	30	32
Crop expense - - - - -		178	202	307	238
Livestock expense- - - - -		80	80	87	126
Taxes- - - - -		244	252	253	279
Totals - - - - -	\$	\$3,634	\$3,645	\$3,855	\$3,601
<u>Summary</u>					
Cash balance - - - - -	\$	\$1,430	\$1,681	\$2,224	\$2,311
Farm products used in household ^{2/} - - - - -		241	267	--	--
Total inventory change - - - - -		887	586	171	1,237
Receipts less expenses - - - - -		2,558	2,534	2,395	3,548
Total unpaid labor - - - - -		740	758	796	774
Net earnings per farm- - - - -	\$	\$1,818	\$1,776	\$1,599	\$2,774
Net earnings per acre- - - - -	\$	\$10.64	\$ 9.55	\$ 8.69	\$14.35

^{1/} Includes farm share of automobile for 1936 and 1937.

^{2/} Not included as income for 1936 and 1937.

Inventory Changes, Cash Receipts, Cash Expenses, and Earnings

Inventory changes.--The year 1939 was the fourth consecutive year of increasing inventories, the increases averaging \$887 in 1939, \$586 in 1938, \$171 in 1937, and \$1,237 in 1936 (Table 1). The largest increases in 1939 were in live-stock and feed and grain. The increased value of feed and grain represented higher prices at the end of the year as well as larger quantities of grain on hand (Page 1 and Fig. 2). The average amounts of grain on hand in Area 1 at the two inventory periods follow:

	Beginning of year (bushels)	End of year (bushels)
Corn	1,540	1,795
Oats	710	581

Cash receipts.--Cash receipts were the smallest in the last four years, averaging \$5,064 in 1939 (Table 1). Livestock receipts, principally dairy sales and hogs were smaller this year than last. AAA payments and grain sales were larger in 1939 than in 1938. The larger AAA receipts were mainly due to a doubling-up in payments, many farmers receiving payments in 1939 for participation in both the 1938 and 1939 programs.

Cash expenses.--Cash expenses were smaller in 1939 than in either 1938 or 1937. Less money was spent for machinery and equipment, but more was spent for cattle and feeds, in 1939 than in 1938.

Earnings.--Cash receipts exceeded cash expenses in 1939 by \$1,430, or by a smaller margin than that for any other year during the past four years. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The amounts deducted for operator's and family labor remained rather uniform during the 4-year period, a difference of only \$56 occurring between the low year, 1939, and the high year, 1937. The uniformity in valuation was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$50 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$1,818 in 1939 compared with \$1,776 for 1938. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

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TABLE 2.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 1, 1939

Items	Your farm	Average of all farms	Land-area tillable	
			85 percent or more	Less than 85 percent
Number of farms - - - - -	--	87	36	51
Capital Investments				
Land- - - - -	\$	\$13,252	\$13,024	\$13,413
Farm improvements - - - - -		5,873	5,493	6,142
Horses - - - - -		391	410	377
Productive livestock: Cattle- - - - -		2,601	2,512	2,663
Hogs- - - - -		274	328	236
Sheep - - - - -		24	27	23
Poultry - - - - -		119	96	135
Total productive livestock- - - - -	()	(3,018)	(2,963)	(3,057)
Feed and grain - - - - -		1,830	1,876	1,798
Machinery and equipment - - - - -		1,929	1,857	1,979
Automobile (farm share) - - - - -		129	124	133
Totals- - - - -	\$	\$26,422	\$25,747	\$26,899
Receipts and Net Increases				
Horses - - - - -	\$	\$ --	\$ --	\$ --
Productive livestock: Cattle- - - - -		730	851	645
Dairy sales - - - - -		2,130	1,737	2,407
Hogs- - - - -		430	544	351
Sheep - - - - -		42	75	17
Poultry - - - - -		60	58	62
Egg sales - - - - -		195	160	220
Total productive livestock- - - - -	()	(3,587)	(3,425)	(3,702)
Farm products used in household - - - - -		241	226	252
Feed and grain - - - - -		271	447	146
Labor off farm - - - - -		38	32	42
Miscellaneous - - - - -		9	10	8
AAA payments- - - - -		311	317	307
Totals- - - - -	\$	\$ 4,457	\$ 4,457	\$ 4,457
Expenses and Net Decreases				
Farm improvements - - - - -	\$	\$ 291	\$ 244	\$ 324
Horses - - - - -		14	5	20
Productive livestock- - - - -		--	--	--
Feed and grain- - - - -		--	--	--
Machinery and equipment - - - - -		489	520	468
Automobile (farm share) - - - - -		79	78	80
Hired labor - - - - -		490	429	533
Miscellaneous - - - - -		34	29	38
Crop expense- - - - -		178	180	177
Livestock expense - - - - -		80	67	88
Taxes - - - - -		244	225	257
Totals- - - - -	\$	\$ 1,899	\$ 1,777	\$ 1,985
Receipts less expenses- - - - -	\$	\$ 2,558	\$ 2,680	\$ 2,472
Family labor- - - - -		224	248	207
Returns for labor, capital, mgt.- - - - -		2,334	2,432	2,265
Operator's labor- - - - -		516	500	526
Returns for capital and mgt.- - - - -		1,818	1,932	1,739
Rate Earned on Investment - - - - -	%	6.9%	7.5%	6.0%
Interest on investment- - - - -	\$	\$ 1,321	\$ 1,288	\$ 1,345
Labor and Management Earnings - - - - -		1,013	1,144	920
Non farm income - - - - -	\$	\$ 75	\$ 70	\$ 78

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 1; for example, 30 farms earned less than 5 percent on the investment, with an average rate earned of 1.9 percent, but in contrast 24 farms earned 9 percent or more, with an average rate earned of 12.0 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$246 for labor and management earnings as contrasted with a gain of \$2,402 for the latter group. By studying the reasons for these variations, farm operators can improve their chances of financial success. The variation in earnings and in size of farm for all records in the area was as follows:

Rate earned on investment (percent)	Number of farms	Average rate earned (percent)	Acres per farm	Capital in- vested per farm	Gross earnings per farm	Net earnings per farm	Labor and management earnings
Less than 5	30	1.9	155	\$23,232	\$3,332	\$ 434	\$ -246
5 to 9	33	7.1	178	29,307	4,960	2,087	1,146
9 or more	24	12.0	181	26,444	6,012	3,179	2,402

Comparison of Farms According to Quality of Land

The 87 farms were divided into two groups according to the percent of land area tillable. Of this total number of farms 36 had 85 percent or more of land area tillable, and 51 had less than 85 percent tillable. The average percent tillable was 91.7 for the former group and 69.8 for the latter group.

This grouping of farms gives each farmer an opportunity to compare his farm with the average of other farms having a similar quality of land as well as with the average of all accounting farms (Tables 2 and 3).

The capital investment averaged \$25,747, or \$162 per acre, for the group of farms having the larger percent of land area tillable, as compared with a capital investment averaging \$26,899, or \$150 per acre, for the group of farms having the smaller percent of land area tillable.

The receipts and net increases were the same for the two groups of farms. The expenses and net decreases, however, were \$208 smaller on the farms of higher-quality land than on those of lower-quality land. The rate earned on investment was 7.5 percent and 6.0 percent, and the labor and management earnings were \$1,144 and \$920, respectively, for the two groups of farms.

The farms on higher-quality land were 21 acres smaller than those on lower-quality land; yet the former had 15 acres more land in crops. They also had a larger percent of tillable land in soybeans and a smaller percent in oats. The amount of livestock per farm was practically the same for the two groups of farms, as indicated by the value of feed fed to productive livestock and the capital invested in productive livestock (Tables 3 and 2).

TABLE 3.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 1, 1939

Items	Your farm	Average of all farms	Land-area tillable	
			85 percent or more	Less than 85 percent
Rate earned on investment- - - - -	_____ %	6.9%	7.5%	6.5%
Acres in farm- - - - -	_____	171	159	180
Acres in crops - - - - -	_____	116	125	110
Gross earnings per acre- - - - -	\$ _____	\$ 26.08	\$ 28.10	\$ 24.82
Total expenses per acre ^{2/} - - - - -	_____	15.44	15.92	15.14
Net earnings per acre- - - - -	_____	10.64	12.18	9.68
<u>Investments</u>				
Value of land per acre - - - - -	\$ _____	\$ 78	\$ 82	\$ 75
Value of improvements per acre - - - - -	_____	34	35	34
Total investment per acre- - - - -	_____	155	162	150
<u>Land Use</u>				
Percent of land-area tillable- - - - -	_____	78.2	91.7	69.8
Percent of tillable land in:				
Corn - - - - -	_____	32.8	32.2	33.2
Oats - - - - -	_____	17.1	13.6	20.0
Wheat- - - - -	_____	1.5	1.4	1.6
Soybeans - - - - -	_____	2.9	6.1	.3
Other crops- - - - -	_____	9.6	11.1	8.5
Legume hay and pasture - - - - -	_____	22.2	21.7	22.5
Non-legume hay and pasture - - - - -	_____	13.9	13.9	13.9
<u>Crop Yields</u>				
Corn - - - - -	_____	63.3	64.6	62.2
Oats - - - - -	_____	38.0	39.5	37.1
Barley - - - - -	_____	27.9	28.7	26.8
Soybeans - - - - -	_____	14.4	14.2	17.5
<u>Livestock Factors</u>				
Value of feed fed to prod. L. S. - - - - -	\$ _____	\$2,320	\$2,327	\$2,315
Feed fed per acre to prod. L. S. - - - - -	_____	13.58	14.67	12.89
Returns per acre from prod. L. S. - - - - -	_____	21.95	22.58	21.56
Returns per \$100 worth of feed fed - - - - -	_____	162	154	167
Returns per \$100 invested in cattle- - - - -	_____	105	97	111
Poultry returns per hen- - - - -	_____	2.74	2.65	2.81
Number of litters farrowed - - - - -	_____	9.2	11.0	7.8
Number of pigs weaned per litter - - - - -	_____	6.3	6.3	6.5
Returns per litter farrowed- - - - -	\$ _____	\$ 75	\$ 74	\$ 76
Average number of cows milked- - - - -	_____	18.9	15.2	21.5
Dairy returns per cow milked - - - - -	\$ _____	\$ 117	\$ 119	\$ 115
<u>Expense Factors</u>				
Machinery cost per crop acre ^{1/} - - - - -	\$ _____	\$ 4.89	\$ 4.78	\$ 4.99
Horse and machinery cost per crop A. - - - - -	_____	6.19	5.95	6.39
Labor cost per crop acre ^{2/} - - - - -	_____	10.26	9.16	11.14
Labor cost per \$100 gross earnings ^{2/} - - - - -	_____	27	26	27
Number of work horses- - - - -	_____	3.5	3.4	3.6
Value of feed fed to horses- - - - -	\$ _____	\$ 137	\$ 141	\$ 134
Improvement cost per acre- - - - -	_____	1.70	1.54	1.80
Taxes per acre - - - - -	_____	1.43	1.42	1.43

1/ Includes farm share of automobile.

2/ Includes operator's and family labor.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS, FARMS WITH LESS THAN 85 PERCENT OF THE LAND AREA TILLABLE

Accounting Farms in Farming-Type Area 1, 1939

The numbers above the lines across the middle of the page are the averages for the 51 farms included in this group for the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings									Total expense per acre	Factors that affect expenses		
			Percent tillable land in legume hay and pasture	Crop yields			Feed fed per acre to prod. L. S.	Returns per \$100 feed fed	Poultry returns per hen	Hog returns per litter farrowed	Dairy returns per cow milked		Horse and machinery cost per crop acre	Labor cost per crop acre	Labor cost per \$100 gross earnings
				Corn, bu.	Oats, bu.	Barley, bu.									
14.0	280	35	37	82	57	37	23	217	5.50	126	165	5	4.00	6	12
12.5	260	33	34	78	53	35	21	207	5.00	116	155	7	4.50	7	15
11.0	240	31	31	74	49	33	19	197	4.50	106	145	9	5.00	8	18
9.5	220	29	28	70	45	31	17	187	4.00	96	135	11	5.50	9	21
8.0	200	27	25	66	41	29	15	177	3.50	86	125	13	6.00	10	24
6.5	180	24.82	22.5	62.2	37.1	26.8	12.89	167	2.81	76	115	15.14	6.39	11.14	27
5.0	160	23	19	58	33	25	11	157	2.50	66	105	17	7.00	12	30
3.5	140	21	16	54	29	23	9	147	2.00	56	95	19	7.50	13	33
2.0	120	19	13	50	25	21	7	137	1.50	46	85	21	8.00	14	36
0.5	100	17	10	46	21	19	5	127	1.00	36	75	23	8.50	15	39
-1.0	80	15	7	42	17	17	3	117	.50	26	65	25	9.00	16	42

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 1, 1939

Items	Source of income		
	Dairy sales 40%+	General farms	
		L.S. 60%-	L.S. 60%+
Number of farms - - - - -	59	12	16
Percent income from prod. L.S. - - - - -	83.1	46.8	87.8
Percent income from crops - - - - -	3.7	36.0	--
<u>Investments</u>			
Total per farm - - - - -	\$26,678	\$21,803	\$28,944
Total per acre - - - - -	159	134	154
Land per acre - - - - -	76	80	82
Improvements per acre - - - - -	38	26	29
Machinery per acre ^{1/} - - - - -	12	8	13
<u>Earnings</u>			
Per farm			
Gross earnings - - - - -	\$ 4,596	\$ 3,631	\$ 4,733
Gross expenses ^{2/} - - - - -	2,710	2,243	2,840
Net earnings - - - - -	1,886	1,388	1,893
Per acre			
Gross earnings - - - - -	\$ 27.37	22.24	25.24
Gross expenses ^{2/} - - - - -	16.14	13.74	15.15
Net earnings - - - - -	11.23	8.50	10.09
Rate earned on investment - - - - -	7.1%	6.4%	6.5%
Labor and mgt. earnings - - - - -	\$ 1,070	\$ 839	\$ 930
<u>Size and Intensity</u>			
Acres per farm - - - - -	168	163	187
Percent land-area tillable - - - - -	77.3	80.8	79.4
Percent tillable land in grain - - - - -	57.9	64.2	69.0
Percent in hay and pasture - - - - -	40.4	27.6	27.4
Feed fed per acre to prod. L.S. - - - - -	\$ 14.01	\$ 7.68	\$ 16.01
Months of labor per 100 crop A. - - - - -	22.6	18.4	17.9
Total months of labor - - - - -	24.9	22.4	23.9
Average number of cows milked - - - - -	23.3	7.9	11.0
<u>Crop Yields Per Acre</u>			
Corn, bu. - - - - -	62.8	63.0	64.5
Oats, bu. - - - - -	39.3	33.2	37.2
<u>Livestock Returns</u>			
Per \$100 feed fed - - - - -	\$ 169	\$ 149	\$ 145
Hog returns per litter - - - - -	76	66	78
Dairy returns per cow - - - - -	122	79	89
<u>Expense Factors</u>			
Labor cost ^{2/}			
Per crop acre - - - - -	\$ 11.12	\$ 8.70	\$ 8.72
Per \$100 gross earnings - - - - -	27	29	25
Horse and machinery cost			
per crop acre ^{1/} - - - - -	6.54	5.36	5.68
Improvement cost per acre - - - - -	1.85	1.23	1.56
Land tax per acre - - - - -	1.24	1.33	1.17

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Larger crop yields per acre on the farms on higher-quality land, which amounted to 2.4 bushels of corn, 2.4 bushels of oats, 1.9 bushels of barley, indicate the relative productive level of the land on two groups of farms.

The operating expenses per acre averaged \$15.92 on the farms with the most tillable land and \$15.14 on the farms with the least tillable land. The combined cost per crop acre for labor, machinery, and horses was \$2.42 smaller on the farms with the larger percent of tillable land.

The livestock-efficiency factors, such as poultry returns per hen, hog returns per litter of pigs farrowed, and dairy returns per cow milked, were not appreciably affected by the quality of land. These factors indicate that the two groups of farms were operated with about the same degree of efficiency. Therefore, it may be assumed that the differences in organization, land use, crop yields, and costs were principally due to the differences in the productivity of the land on the two groups of farms.

Source of Income

The 87 farms were divided into 3 groups according to source of income (Table 4). The items in this table, for the most part, were made to correspond with the items given in Table 3; therefore, a farmer may compare the data in the "Your farm" column in Table 3 with the "Source of income" column in Table 4, which corresponds to the classification for his own farm.

In a comparison of the groups of farms the fact that conditions affecting production and price relationships vary from year to year should be kept in mind. Therefore, the average differences in earnings in 1939 are not necessarily typical of the variations that may be expected over a long period of years.

The returns per \$100 feed that are necessary to pay for feed (including pasture) and other costs, according to 5-year averages of complete cost studies (1933-1937), follow: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117. There is little wonder, therefore, that the 3 groups of accounting farms with different classes and proportions of livestock varied widely in the returns per \$100 worth of feed fed.

Differences in expenses are significant for the 3 groups of farms. Labor input was highest on the dairy farms, where 24.9 months of labor were used. The labor cost per crop acre averaged \$11.12 on the dairy farms. This was about \$2.50 per crop acre higher than for the general farms. Likewise, both the horse and machinery and the improvement costs were higher on the dairy farms than on the general farms. In spite of the higher expenses the dairy farms showed the best earnings. The rate earned was 7.1% for the dairy farms and 6.4% and 6.5% for the general farms.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 1, 1939

Items	Total acres in farm		
	Less than 131	131 to 190	191 or more
Number of farms - - - - -	27	34	26
Acres per farm - - - - -	102	160	257
<u>Investments</u>			
Total per farm - - - - -	\$17,221	\$24,837	\$38,049
Total per acre - - - - -	169	155	148
Land per acre - - - - -	81	76	77
Improvements per acre - - - - -	36	35	33
Machinery per acre ^{1/} - - - - -	15	13	10
<u>Earnings</u>			
Per farm			
Gross earnings - - - - -	\$ 3,074	\$ 4,157	\$ 6,324
Gross expenses ^{2/} - - - - -	2,093	2,461	3,476
Net earnings - - - - -	981	1,696	2,848
Per acre			
Gross earnings - - - - -	\$ 30.11	\$ 26.00	\$ 24.63
Gross expenses ^{2/} - - - - -	20.50	15.39	13.54
Net earnings - - - - -	9.61	10.61	11.09
Rate earned on investment - - - - -	5.7%	6.8%	7.5%
Labor and management earnings - - - - -	\$ 618	\$ 1,007	\$ 1,430
<u>Size and Intensity</u>			
Percent land-area tillable - - - - -	80.4	78.9	76.8
Percent tillable land in grain - - - - -	58.8	58.7	64.0
Percent in hay and pasture - - - - -	37.2	39.0	33.0
Feed fed per acre to prod. L. S. - - - - -	\$ 16.72	\$ 14.08	\$ 11.87
Percent of income from prod. L. S. - - - - -	84.2	84.1	75.0
Percent of income from grain - - - - -	--	.5	14.5
Months of labor per 100 crop acres - - - - -	28.7	22.4	16.6
Total months of labor - - - - -	20.8	23.7	29.0
Average number of cows milked - - - - -	13.6	18.9	24.6
<u>Crop Yields Per Acre</u>			
Corn, bu. - - - - -	61.8	60.1	66.1
Oats, bu. - - - - -	38.6	39.9	36.3
<u>Livestock Returns</u>			
Per \$100 feed fed - - - - -	\$ 161	\$ 163	\$ 161
Hog returns per litter - - - - -	65	80	73
Dairy returns per cow - - - - -	121	119	111
<u>Expense Factors</u>			
Labor cost per crop acre ^{2/} - - - - -	\$ 14.05	\$ 10.57	\$ 8.39
Labor cost per \$100 gross earnings - - - - -	33	27	23
Horse and machinery cost per crop A. ^{1/} - - - - -	7.39	6.31	5.58
Improvement cost per acre - - - - -	1.91	1.76	1.58
Land tax per acre - - - - -	1.60	1.20	1.13

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Size of Farm As Related to Earnings

The farm records in Farming-Type Area 1, when sorted according to the total acres in the farm, indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller farms. The operators on the larger farms took in more money during the year than did the operators on the smaller farms; and after deductions were made for farm business expenditures and interest on the investment, the 26 largest farms had labor and management earnings which averaged \$1,430 as contrasted with \$618 for the 27 smallest farms. The earnings, as measured by the rate earned on the investment, were 7.5% for the former group and 5.7% for the latter group. In years when the average rate earned on investment for groups of farms exceeds the capitalization rate (5 percent) the average labor and management earnings are higher on the larger farms than on the smaller ones, but these earnings are lower when the rate earned averages less than the capitalization rate.

The smaller farms were operated more intensively than were the larger farms. This variation was indicated by the much higher gross earnings per acre, by the larger proportion of total land tillable, by the higher land values, and by the larger amount of feed fed per acre to productive livestock.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and the source of farm income (Tables 6 and 7).

In this report an average was calculated for each county from which 30 or more records were received. Averages were made in some instances with less than 30 records if it was necessary to eliminate some records because they were incomplete or not typical for the area. In any tabulation containing as few as 30 records, part of the variation from county to county is due to the fact that the averages do not represent a cross section of the county.

The tabulations by counties and by groups of counties may be used by extension specialists, farm advisers, and county program-building committees to represent the type of farm organization and the level of operating efficiency attained by a selected group of progressive farmers in the various parts of a farming-type area. Since the personnel of the accounting group changes slowly, comparisons may be made from county to county and from year to year even though these records are from farms with efficiency which is higher than average.

TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 1, 1939

Items	DuPage, Kane, Boone, Lake, and Cook	McHenry
Number of farms - - - - -	46	41
<u>Capital Investments</u>		
Land - - - - -	\$14,757	\$11,564
Farm improvements - - - - -	5,506	6,285
Horses - - - - -	374	410
Productive livestock: Cattle - - - - -	2,439	2,783
Hogs - - - - -	308	236
Sheep - - - - -	30	17
Poultry - - - - -	125	112
<u>Total productive livestock</u> - - - - -	(2,902)	(3,148)
Feed and grain - - - - -	2,021	1,616
Machinery and equipment - - - - -	1,933	1,924
Automobile (farm share) - - - - -	117	142
<u>Totals</u> - - - - -	\$27,610	\$25,089
<u>Receipts and Net Increases</u>		
Horses - - - - -	\$ --	\$ --
Productive livestock: Cattle - - - - -	832	615
Dairy sales - - - - -	1,777	2,526
Hogs - - - - -	496	358
Sheep - - - - -	69	11
Poultry - - - - -	53	68
Egg sales - - - - -	210	178
<u>Total productive livestock</u> - - - - -	(3,437)	(3,756)
Farm products used in household - - - - -	240	242
Feed and grain - - - - -	431	92
Labor off farm - - - - -	42	33
Miscellaneous - - - - -	10	8
AAA payments - - - - -	301	323
<u>Totals</u> - - - - -	\$ 4,461	\$ 4,454
<u>Expenses and Net Decreases</u>		
Farm improvements - - - - -	\$ 268	\$ 316
Horses - - - - -	16	12
Productive livestock - - - - -	--	--
Feed and grain - - - - -	--	--
Machinery and equipment - - - - -	503	474
Automobile (farm share) - - - - -	70	89
Hired labor - - - - -	509	469
Miscellaneous - - - - -	28	41
Crop expense - - - - -	184	173
Livestock expense - - - - -	77	82
Taxes - - - - -	249	238
<u>Totals</u> - - - - -	\$ 1,904	\$ 1,894
Receipts less expenses - - - - -	\$ 2,557	\$ 2,560
Family labor - - - - -	210	241
Returns for labor, capital, mgt. - - - - -	2,347	2,319
Operator's labor - - - - -	508	524
Returns for capital and mgt. - - - - -	1,839	1,795
<u>Rate Earned on Investment</u> - - - - -	6.7%	7.2%
Interest on investment - - - - -	\$ 1,380	\$ 1,255
<u>Labor and Management Earnings</u> - - - - -	967	1,064
Non farm income - - - - -	\$ 50	\$ 103

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 1, 1939

Items	DuPage, Kane, Boone, Lake, and Cook	McHenry
Rate earned on investment- - - - -	6.7%	7.2%
Acres in farm- - - - -	166	176
Acres in crops - - - - -	119	113
Gross earnings per acre- - - - -	\$ 26.87	\$ 25.25
Total expenses per acre ^{2/} - - - - -	15.79	15.07
Net earnings per acre- - - - -	11.08	10.18
<u>Investments</u>		
Value of land per acre - - - - -	\$ 89	\$ 66
Value of improvements per acre - - - - -	33	36
Total investment per acre- - - - -	166	142
<u>Land Use</u>		
Percent of land-area tillable- - - - -	81.7	74.5
Percent of tillable land in:		
Corn - - - - -	32.7	33.0
Oats - - - - -	17.3	17.0
Wheat- - - - -	1.7	1.3
Soybeans - - - - -	2.9	2.9
Other crops- - - - -	11.1	7.8
Legume hay and pasture - - - - -	22.6	21.8
Non-legume hay and pasture - - - - -	11.7	16.2
<u>Crop Yields</u>		
Corn - - - - -	67.0	58.4
Oats - - - - -	40.0	35.5
Barley - - - - -	26.8	29.0
Soybeans - - - - -	20.3	7.6
<u>Livestock Factors</u>		
Value of feed fed to prod. L. S. - - - -	\$2,417	\$2,211
Feed fed per acre to prod. L. S. - - - -	14.56	12.53
Returns per acre from prod. L. S.- - - -	21.69	22.22
Returns per \$100 worth of feed fed - - -	149	177
Returns per \$100 invested in cattle- - -	102	109
Poultry returns per hen- - - - -	2.74	2.75
Number of litters farrowed - - - - -	11.1	7.5
Number of pigs weaned per litter - - - -	6.6	6.0
Returns per litter farrowed- - - - -	\$ 76	\$ 73
Average number of cows milked- - - - -	15.5	22.8
Dairy returns per cow milked - - - - -	\$ 119	\$ 114
<u>Expense Factors</u>		
Machinery cost per crop acre ^{1/} - - - - -	\$ 4.81	\$ 4.99
Horse and machinery cost per crop A. - -	6.05	6.37
Labor cost per crop acre ^{2/} - - - - -	9.95	10.65
Labor cost per \$100 gross earnings ^{2/} - -	27	27
Number of work horses- - - - -	3.4	3.7
Value of feed fed to horses- - - - -	\$ 131	\$ 143
Improvement cost per acre- - - - -	1.61	1.79
Taxes per acre - - - - -	1.50	1.35

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Influence of Price Changes on Illinois Farm Incomes

All feed and grain, livestock, and other farm property on accounting farms must be valued at both the beginning and the end of the year. Prices at inventory time, therefore, have a marked influence on farm earnings. The influence is greatest where large stocks or supplies are on hand at inventory time; for example, a much larger supply of farm products was found on Illinois farms December 31, 1939, than a year earlier. In fact, grain and livestock inventories have been increasing on Illinois farms since the drought of 1936 as a result of three years of exceptionally high crop yields and the influence of Agricultural Adjustment Programs which have caused farmers to grow more hay and pasture and to store corn on farms under seal. According to estimates made by the Bureau of Agricultural Economics, U.S.D.A., 356 million bushels of corn were on Illinois farms January 1, 1940, as compared with 325 million bushels January 1, 1939.

Livestock numbers on Illinois farms increased sharply in 1939 even though 62 million bushels of 1937 and 1938 corn were placed under seal at the end of the year and 83 million bushels of 1939 corn were sealed by March 31, 1940. The following data indicate the percentage increase in livestock numbers on 2520 accounting farms in Illinois from the beginning to the end of 1939; dairy cows, 2 percent; beef cows, 21 percent; feeder cattle, 17 percent; feeder lambs, 24 percent; brood sows, 4 percent; spring pigs, 38 percent; summer pigs, 23 percent; and fall pigs, 28 percent. Hog numbers have been increasing since 1935 and have now attained record levels; for example, 13.5 sows farrowed per farm on accounting farms in 1939 as contrasted with 9.2 sows farrowed per farm in 1938. The increase in beef cattle numbers is a part of the general up-swing taking place over the entire United States, and it may be expected to continue for several years.

These data indicate that supplies of both feed and livestock were greater at the time the 1939 closing inventory was taken than at any other inventory period in several years, and price changes, therefore, are important in interpreting farm earnings for the state and for farming-type areas in 1939.

Prices of important farm products.--Prices for all crops as well as for beef cattle and sheep were higher at the end of 1939 than they were at the beginning, whereas prices for horses, hogs, and poultry were lower. Most of these price increases occurred during the last four months of the year.

December 15, Illinois Farm Prices

	<u>1938</u>	<u>1939</u>	<u>Increase</u>	<u>Decrease</u>
Corn, bu.	\$.42	\$.47	\$.05	\$ --
Oats, bu.	.24	.35	.11	--
Wheat, bu.	.57	.88	.31	--
Soybeans, bu.	.65	.95	.30	--
Hay, tons	6.20	6.50	.30	--
Horses, hd.	88.00	85.00	--	3.00
Hogs, cwt.	7.00	5.10	--	1.90
Beef cattle, cwt.	7.70	8.30	.60	--
Sheep, cwt.	3.45	3.60	.15	--
Chickens, lb.	.13	.11	--	.02

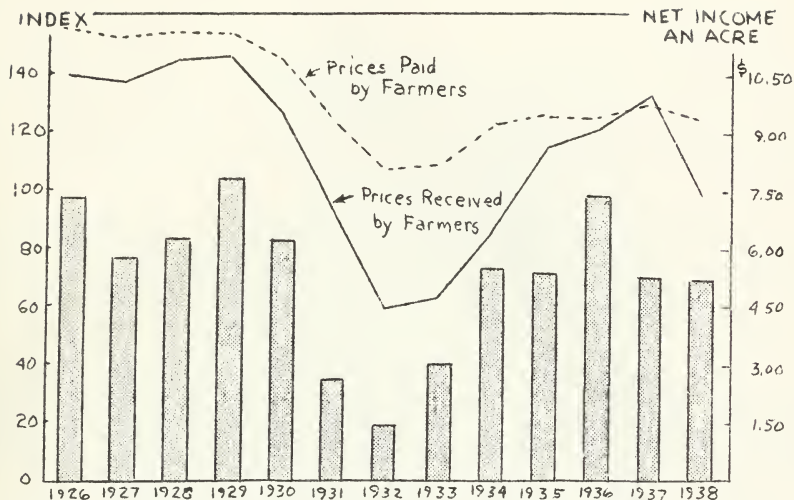


Fig. 1.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1938.

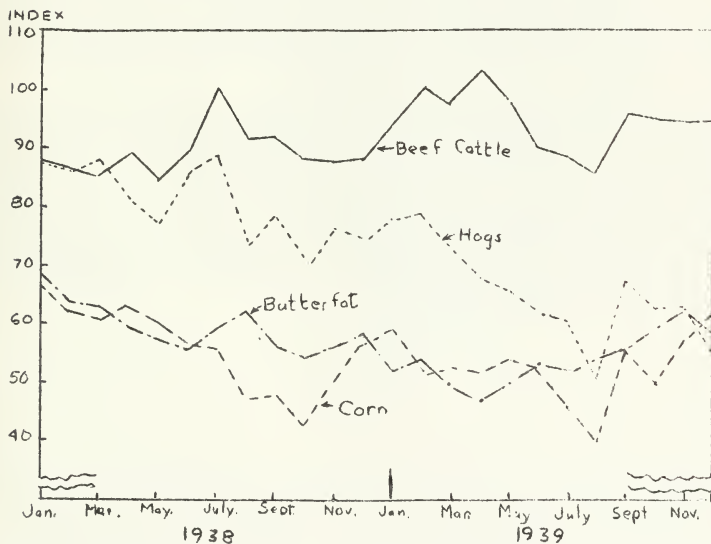


Fig. 2.--Monthly price indices of the average farm prices of corn, hogs, beef cattle, and butterfat, 1938 and 1939. (1924-1929 = 100)

Farm earnings are influenced by the average price received for farm products during the year as well as by the values at inventory time. Although nearly all commodities were higher in price at the end of the year than at the beginning, prices received for the following commodities averaged lower in 1939 than in 1938 by these amounts: corn, 2 cents per bushel; wheat and soybeans, 1 cent per bushel; hogs, \$1.50 per hundred; butterfat, 2 cents per pound; eggs, 3 cents per dozen; and chickens, 2 cents per pound. The prices for other commodities averaged higher in 1939 than in 1938 by the following amounts: oats, 4 cents per bushel; beef cattle, 50 cents per hundred; lambs, 42 cents per hundred; wool, 4 cents per pound; and apples, 12 cents per bushel.

Variation in earnings between the various type-of-farming areas is influenced by the relative prices of grains, livestock, and livestock products. In 1939 as in 1938 livestock had a price advantage over grain, but the advantage was not as marked as it was in 1938. The prices for meat animals dropped from 116 to 110 percent of the 1910-14 average, grains from 74 to 72 percent, chickens and eggs from 106 to 94 percent, and dairy products from 106 to 104 percent.

The corn-hog ratio also narrowed during the year to the disadvantage of the hog enterprise. The amount of corn equal in value to 100 pounds of hogs dropped from 19 bushels in February to 11 bushels in December (based on farm prices). Unfavorable feeding ratios will discourage expansion in hog numbers in 1940.

Crop Yields in Illinois, 1939

Crop yields in Illinois in 1939, as in 1938 and 1937, were unusually high. The weighted average yield of corn, oats, wheat, and soybeans was 133 percent of the 10-year average, 1929-1938. Corn contributed more than did any other crop to the high average yields. The yields of the various crops expressed in percentages of the 1929-1938 averages were: corn, 150; soybeans, 129; wheat, 121; and oats, 97.

Crop yields in all counties except Massac were above the 10-year average (1929-1938 = 100), but wide variations in yields occurred between individual counties and groups of counties. Four counties along the Ohio River had crop-yield indices under 105. In contrast to these counties, 31 were over 136. Many of the counties with the highest yields were in two groups, those located in southwestern and east north central Illinois. Crop-yield indices were adversely affected in southeastern Illinois by the wheat crop and in northern Illinois by low oat yields. Fifty-five counties, which were well-distributed over the state, had crop-yield indices from 121 to 135.



Fig. 3.--Crop yields for 1939, compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1939



FARMING-TYPE AREA TWO Northwestern Mixed Livestock Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON FOUR HUNDRED FIFTY-FOUR FARMS IN FARMING-TYPE AREA 2, 1939

By P. E. Johnston, J. B. Cunningham, and E. M. Hughes^{1/}

Farm earnings of accounting farms in Farming-Type Area 2 were higher in 1939 than in 1938. The net earnings per acre averaged \$12.65 in 1939, \$9.62 in 1938, \$8.46 in 1937, and \$16.43 in 1936. The items considered in calculating the net earnings included inventory changes, cash receipts, cash expenses, the value of the farm products used in the household (in 1938 and 1939 only), and unpaid family labor (Table 1).



▨ Farming-Type Area 2
Mixed Livestock

Since the value of farm products used in the household was not included in the records prior to 1938, the earnings for 1938 and 1939 are not strictly comparable to those for other years. The value per acre of farm products used was \$1.28 in 1938 and \$1.20 in 1939.

The accounting farms were larger than average, crop yields were above average, and the farms as a whole were operated with efficiency which was greater than average. Therefore, the figures contained in this report represent conditions which are better than average for this area. This fact is borne out by survey records taken in various areas of the state.

High crop yields and more livestock, accompanied by increased industrial activity and improved demand for farm products, especially during the latter half of the year, were the principal factors producing higher earnings in 1939 (Figs. 1, 2, and 3).

^{1/} R. J. Mutti supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm accounts project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the farm advisers indicated:

R. P. Johnson, DeKalb County
V. J. Banter, Stephenson County
C. E. Yale, Lee County
D. E. Warren, Ogle County
R. C. Smith, Rock Island County

H. E. Kearnaghan, Jo Daviess County
H. R. Brunnemeyer, Winnebago County
F. H. Shuman, Whiteside County
M. P. Roske, Carroll County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 2, 1936-1939

Items	Your farm	Average of all farms in area			
		1939	1938	1937	1936
Number of farms- - - - -	--	454	382	285	227
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$ _____	\$ 104	\$ 100	\$ 125	\$ 37
Livestock- - - - -	_____	483	130	3	163
Feed and grain - - - - -	_____	521	112	-230	916
Machinery and equipment ^{1/} - - - - -	_____	86	112	330	266
Automobile (farm share)- - - - -	_____	-3	-6	--	--
Totals - - - - -	\$ _____	\$1,191	\$ 448	\$ 228	\$1,382
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$ _____	\$ 32	\$ 6	\$ 27	\$ 3
Horses - - - - -	_____	44	37	53	69
Productive livestock: Cattle - - - - -	_____	2,656	1,912	1,574	1,725
Dairy sales- - - - -	_____	669	784	1,000	964
Hogs - - - - -	_____	1,392	1,629	1,678	1,865
Sheep- - - - -	_____	205	136	118	79
Poultry- - - - -	_____	87	74	99	96
Egg sales- - - - -	_____	151	170	189	169
Total productive livestock - - - - -	()	(5,160)	(4,705)	(4,658)	(4,898)
Feed and grain - - - - -	_____	842	556	574	684
Machinery and equipment ^{1/} - - - - -	_____	188	192	232	210
Automobile (farm share)- - - - -	_____	32	23	--	--
Labor off farm - - - - -	_____	38	43	75	90
Miscellaneous- - - - -	_____	11	6	9	2
AAA payments - - - - -	_____	576	164	137	127
Totals - - - - -	\$ _____	\$6,923	\$5,732	\$5,765	\$6,083
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$ _____	\$ 426	\$ 357	\$ 378	\$ 259
Horses - - - - -	_____	28	32	41	60
Productive livestock: Cattle - - - - -	_____	1,740	941	635	659
Hogs - - - - -	_____	119	116	95	144
Sheep- - - - -	_____	137	77	57	27
Poultry- - - - -	_____	32	26	29	32
Total productive livestock - - - - -	()	(2,028)	(1,160)	(816)	(862)
Feed and grain - - - - -	_____	695	514	569	697
Machinery and equipment ^{1/} - - - - -	_____	778	746	969	843
Automobile (farm share) - - - - -	_____	130	112	--	--
Hired labor- - - - -	_____	362	312	251	246
Miscellaneous- - - - -	_____	33	31	25	27
Crop expense - - - - -	_____	175	174	257	188
Livestock expense- - - - -	_____	66	61	50	73
Taxes- - - - -	_____	266	237	212	217
Totals - - - - -	\$ _____	\$4,987	\$3,736	\$3,568	\$3,472
<u>Summary</u>					
Cash balance - - - - -	\$ _____	\$1,936	\$1,996	\$2,197	\$2,611
Farm products used in household ^{2/} - - - - -	_____	250	265	--	--
Total inventory change - - - - -	_____	1,191	448	228	1,382
Receipts less expenses - - - - -	_____	3,377	2,709	2,425	3,993
Total unpaid labor - - - - -	_____	732	724	777	806
Net earnings per farm- - - - -	\$ _____	\$2,645	\$1,985	\$1,648	\$3,187
Net earnings per acre- - - - -	\$ _____	\$12.65	\$ 9.62	\$ 8.46	\$16.43

^{1/} Includes farm share of automobile for 1936 and 1937.

^{2/} Not included as income for 1936 and 1937.

Inventory Changes, Cash Receipts, Cash Expenses, and Earnings

Inventory changes.--The year 1939 was the fourth consecutive year increasing inventories, the increases averaging \$1,191 in 1939, \$448 in 1938, \$228 in 1937, and \$1,382 in 1936 (Table 1). The largest increases in 1939 were in feed and grain and in livestock. The increased value of feed and grain represented higher prices at the end of the year as well as larger quantities of grain on hand (Page 1 and Fig. 2). The average amounts of grain on hand in Area 2 at the two inventory periods follow:

	Beginning of year (bushels)	End of year (bushels)
Corn	2,958	3,407
Oats	1,034	828
Wheat	21	27
Soybeans	47	55

Cash receipts.--Cash receipts reached the highest level in four years, averaging \$6,923 in 1939 (Table 1). Cattle and grain sales and AAA payments were larger in 1939 than in 1938, but hog and dairy sales were smaller. The larger AAA receipts were mainly due to a doubling-up in payments, many farmers receiving payments in 1939 for participation in both the 1938 and 1939 programs.

Cash expenses.--Cash expenses were greater in 1939 than in any of the last four years. For every major item of expense, a greater amount was paid out in 1939 than in 1938.

Earnings.--Cash receipts exceeded cash expenses in 1939 by \$1,936, or by a smaller margin than that for any other year during the past four. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments and savings.

The amounts deducted for operator's and family labor remained rather uniform during the 4-year period, a difference of only \$82 occurring between the low year, 1938, and the high year, 1936. The uniformity in valuation was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$50 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$2,645 in 1939 as contrasted with \$1,985 in 1938. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

TABLE 2.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 2, 1939

Items	Your farm	Average of all farms	Land area tillable	
			85 percent or more	Less than 85 percent
Number of farms - - - - -	--	454	279	175
<u>Capital Investments</u>				
Land - - - - -	\$	\$19,274	\$21,691	\$15,421
Farm improvements - - - - -		5,673	6,119	4,964
Horses - - - - -		380	366	401
Productive livestock: Cattle - - - - -		2,295	2,452	2,045
Hogs - - - - -		825	887	727
Sheep - - - - -		121	140	90
Poultry - - - - -		107	108	105
Total productive livestock - - - - -	()	(3,348)	(3,587)	(2,967)
Feed and grain - - - - -		2,295	2,666	1,702
Machinery and equipment - - - - -		2,033	2,240	1,701
Automobile (farm share) - - - - -		186	193	176
Totals - - - - -	\$	\$33,189	\$36,862	\$27,332
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$	\$ --	\$ --	\$ --
Productive livestock: Cattle - - - - -		1,485	1,747	1,069
Dairy sales - - - - -		669	582	809
Hogs - - - - -		1,202	1,251	1,123
Sheep - - - - -		85	90	75
Poultry - - - - -		56	39	84
Egg sales - - - - -		151	156	142
Total productive livestock - - - - -	()	(3,648)	(3,865)	(3,302)
Farm products used in household - - - - -		250	243	262
Feed and grain - - - - -		668	872	341
Labor off farm - - - - -		38	46	26
Miscellaneous - - - - -		11	12	11
AAA payments - - - - -		576	664	436
Totals - - - - -	\$	\$ 5,191	\$ 5,702	\$ 4,378
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$	\$ 290	\$ 317	\$ 247
Horses - - - - -		17	16	20
Productive livestock - - - - -		--	--	--
Feed and grain - - - - -		--	--	--
Machinery and equipment - - - - -		504	559	416
Automobile (farm share) - - - - -		101	109	90
Hired labor - - - - -		362	398	304
Miscellaneous - - - - -		33	35	30
Crop expense - - - - -		175	193	147
Livestock expense - - - - -		66	70	60
Taxes - - - - -		266	279	245
Totals - - - - -	\$	\$ 1,814	\$ 1,976	\$ 1,559
Receipts less expenses - - - - -	\$	\$ 3,377	\$ 3,726	\$ 2,819
Family labor - - - - -		178	166	197
Returns for labor, capital, mgt. - - - - -		3,199	3,560	2,622
Operator's labor - - - - -		554	551	559
Returns for capital and mgt. - - - - -		2,645	3,009	2,063
Rate Earned on Investment - - - - -	%	8.0%	8.2%	7.5%
Interest on investment - - - - -	\$	\$ 1,660	\$ 1,843	\$ 1,366
Labor and Management Earnings - - - - -		1,539	1,717	1,256
Nonfarm income - - - - -	\$	\$ 73	\$ 62	\$ 89

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 2; for example, 30 farms earned less than 3 percent on the investment, with an average rate earned of 1.1 percent, but in contrast 43 farms earned 12 percent or more, with an average rate earned of 13.6 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$469 for labor and management earnings as contrasted with a gain of \$2,978 for the latter group. By studying the reasons for these variations, farm operators can improve their chances of financial success. The variation in earnings and in size of farm for all records in the areas was as follows:

<u>Rate earned on investment (percent)</u>	<u>Number of farms</u>	<u>Average rate earned (percent)</u>	<u>Acres per farm</u>	<u>Capital in- vested per farm</u>	<u>Gross earnings per farm</u>	<u>Net earnings per farm</u>	<u>Labor and management earnings</u>
Less than 3	30	1.1	210	\$25,903	\$3,002	\$ 294	\$ -469
3 to 6	96	4.7	197	32,010	4,440	1,501	451
6 to 9	154	7.5	213	34,673	5,509	2,601	1,422
9 to 12	131	10.3	215	35,599	6,460	3,678	2,462
12 or more	43	13.6	204	28,248	6,280	3,846	2,978

Comparison of Farms According to Quality of Land

The 454 farms were divided into two groups according to the percent of land area tillable. Of this total number of farms, 279 had 85 percent or more of land area tillable, and 175 had less than 85 percent tillable. The average percent tillable was 92.7 for the former group and 69.3 for the latter group.

This grouping of farms gives each farmer an opportunity to compare his farm with the average of other farms having a similar quality of land as well as with the average of all accounting farms (Tables 2 and 3).

The capital investment averaged \$36,862, or \$177 per acre, for the group of farms having the larger percent of land area tillable, as compared with a capital investment averaging \$27,332, or \$129 per acre, for the group of farms having the smaller percent of land area tillable.

The receipts and net increases were \$1,324 larger and expenses and net decreases \$417 larger on farms of higher-quality land than on those of lower-quality land. Dairy sales were \$227 smaller for the farms with the larger percent of land area tillable; whereas, the grain receipts were \$531 larger and cattle receipts \$678 larger. The rate earned on investment was 8.2 percent and 7.5 percent, and the labor and management earnings were \$1,717 and \$1,256, respectively, for the two groups of farms.

The farms on higher-quality land averaged 3 acres smaller than did those on lower-quality land; yet the former had 34 acres more land in crops. They also had a larger percent of tillable land in corn and soybeans but a smaller percent in oats, wheat, and hay and pasture. The amount of livestock per farm was larger on the farms with the most tillable land, as is indicated by the value of feed fed to productive livestock and the capital invested in productive livestock (Tables 2 and 3).

TABLE 3.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 2, 1939

Items	Your farm	Average of all farms	Land area tillable	
			85 percent or more	Less than 85 percent
Rate earned on investment- - - - -	_____ %	8.0%	8.2%	7.5%
Acres in farm- - - - -	_____	209	208	211
Acres in crops - - - - -	_____	142	155	121
Gross earnings per acre- - - - -	\$ _____	\$ 24.83	\$ 27.43	\$ 20.74
Total expenses per acre ^{2/} - - - - -	_____	12.18	12.96	10.97
Net earnings per acre - - - - -	_____	12.65	14.47	9.77
<u>Investments</u>				
Value of land per acre - - - - -	\$ _____	\$ 92	\$ 104	\$ 73
Value of improvements per acre - - - - -	_____	27	29	24
Total investment per acre- - - - -	_____	159	177	129
<u>Land Use</u>				
Percent of land area tillable- - - - -	_____	83.6	92.7	69.3
Percent of tillable land in:				
Corn - - - - -	_____	34.3	35.1	32.5
Oats - - - - -	_____	19.8	19.6	20.1
Wheat- - - - -	_____	1.0	.9	1.3
Soybeans - - - - -	_____	3.2	3.9	1.9
Other crops- - - - -	_____	8.0	8.1	7.7
Legume hay and pasture - - - - -	_____	20.1	19.3	21.9
Nonlegume hay and pasture- - - - -	_____	13.6	13.1	14.6
<u>Crop Yields</u>				
Corn - - - - -	_____	71.8	72.8	69.4
Oats - - - - -	_____	39.5	40.6	37.1
Barley - - - - -	_____	28.4	28.7	27.5
Soybeans - - - - -	_____	25.9	26.1	24.7
<u>Livestock Factors</u>				
Value of feed fed to prod. L. S. - - -	\$ _____	\$2,633	\$2,874	\$2,248
Feed fed per acre to prod. L. S. - - -	_____	12.59	13.82	10.65
Returns per acre from prod. L. S. - - -	_____	18.27	19.42	16.49
Returns per \$100 worth of feed fed - - -	_____	145	140	155
Returns per \$100 invested in cattle- - -	_____	87	86	89
Poultry returns per hen- - - - -	_____	2.26	2.21	2.32
Number of litters farrowed - - - - -	_____	18.3	18.9	17.3
Number of pigs weaned per litter - - -	_____	6.0	5.9	6.1
Returns per litter farrowed- - - - -	\$ _____	\$ 72	\$ 73	\$ 71
Average number of cows milked- - - - -	_____	9.2	8.0	11.2
Dairy returns per cow milked - - - - -	\$ _____	\$ 81	\$ 82	\$ 79
<u>Expense Factors</u>				
Machinery cost per crop acre ^{1/} - - -	\$ _____	\$ 4.26	\$ 4.31	\$ 4.19
Horse and machinery cost per crop A. - - -	_____	5.17	5.12	5.29
Labor cost per crop acre ^{2/} - - - - -	_____	7.44	6.90	8.55
Labor cost per \$100 gross earnings ^{2/} - - -	_____	20	19	24
Number of work horses- - - - -	_____	3.2	3.0	3.4
Value of feed fed to horses- - - - -	\$ _____	\$ 112	\$ 110	\$ 114
Improvement cost per acre- - - - -	_____	1.39	1.52	1.17
Taxes per acre - - - - -	_____	1.27	1.34	1.16

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS,
FARMS WITH LESS THAN 85 PERCENT OF THE LAND AREA TILLABLE

Accounting Farms in Farming-Type Area 2, 1939

The numbers above the lines across the middle of the page are the averages for the 175 farms included in this group for the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings										Total expense per acre	Factors that affect expenses			
			Percent tillable land in legume hay and pasture	Crop yields			Feed fed per acre to prod. L. S.	Returns per \$100 feed fed	Poultry returns per hen	Hog returns per litter farrowed	Dairy returns per cow milked	Horse and machinery cost per crop acre		Labor cost per crop acre	Labor cost per \$100 gross earnings		
				Corn, bu.	Oats, bu.	Barley, bu.											
18	411	36	32	94	62	53	21	255	3.82	121	154	6	--	4	14		
16	371	33	30	89	57	48	19	235	3.52	111	139	7	1	5	16		
14	331	30	28	84	52	43	17	215	3.22	101	124	8	2	6	18		
12	291	27	26	79	47	38	15	195	2.92	91	109	9	3	7	20		
10	251	24	24	74	42	33	13	175	2.62	81	94	10	4	8	22		
7.5	211	20.74	21.9	69.4	37.1	27.5	10.65	155	2.32	71	79	10.97	5.29	8.55	24		
6	171	18	20	64	32	23	9	135	2.02	61	64	12	6	10	26		
4	131	15	18	59	27	18	7	115	1.72	51	49	13	7	11	28		
2	91	12	16	54	22	13	5	95	1.42	41	34	14	8	12	30		
0	51	9	14	49	17	8	3	75	1.12	31	19	15	9	13	32		
-2	11	6	12	44	12	3	1	55	.82	21	4	16	10	14	34		

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 2, 1939

Items	Source of income					
	Grain 40%+	Dairy sales 40%+	Hogs 40%+	Cattle 40%+	General farms	
					L.S. 60%+	L.S. 60%+
Number of farms - - - - -	58	27	50	79	72	168
Percent income from prod. L.S. - -	33.2	79.0	83.9	86.3	49.4	77.4
Percent income from crops - - - -	49.6	5.5	--	--	30.8	4.9
<u>Investments</u>						
Total per farm - - - - -	\$36,706	\$25,253	\$25,004	\$49,748	\$34,004	\$27,549
Total per acre - - - - -	161	164	152	181	163	142
Land per acre - - - - -	106	82	85	102	100	79
Improvements per acre - - - - -	21	39	27	30	28	26
Machinery per acre ^{1/} - - - - -	11	13	11	12	10	10
<u>Earnings</u>						
Per farm						
Gross earnings - - - - -	\$ 5,938	\$ 4,188	\$ 4,200	\$ 7,573	\$ 5,163	\$ 4,429
Gross expenses ^{2/} - - - - -	2,535	2,267	2,437	3,621	2,498	2,292
Net earnings - - - - -	3,403	1,921	1,763	3,952	2,665	2,137
Per acre						
Gross earnings - - - - -	\$ 26.02	\$ 27.19	\$ 25.58	\$ 27.55	\$ 24.74	\$ 22.84
Gross expenses ^{2/} - - - - -	11.11	14.72	14.84	13.17	11.97	11.82
Net earnings - - - - -	14.91	12.47	10.74	14.38	12.77	11.02
Rate earned on investment - - -	9.3%	7.6%	7.1%	7.9%	7.8%	7.8%
Labor and mgt. earnings - - -	\$ 2,110	\$ 1,226	\$ 1,020	\$ 2,024	\$ 1,536	\$ 1,320
<u>Size and Intensity</u>						
Acres per farm - - - - -	228	154	164	275	209	194
Percent land area tillable - - -	89.5	87.2	81.7	84.1	86.8	79.3
Percent tillable land in grain - -	69.3	54.3	57.4	66.7	63.9	57.0
Percent in hay and pasture - - -	23.7	42.4	38.7	29.6	32.8	39.2
Feed fed per acre to prod. L.S. -	\$ 6.25	\$ 13.32	\$ 15.69	\$ 17.86	\$ 9.06	\$ 12.42
Months of labor per 100 crop A. -	10.7	21.0	17.8	13.4	14.0	17.4
Total months of labor - - - - -	19.0	21.7	18.8	25.9	20.6	20.9
<u>Crop Yields Per Acre</u>						
Corn, bu. - - - - -	70.7	71.7	71.7	75.6	70.0	70.3
Oats, bu. - - - - -	39.0	37.0	38.4	43.2	39.5	37.6
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 149	\$ 169	\$ 144	\$ 137	\$ 143	\$ 150
Hog returns per litter - - - - -	62	58	86	68	70	73
Dairy returns per cow - - - - -	69	108	65	76	78	80
<u>Expense Factors</u>						
Labor cost ^{2/} - - - - -						
Per crop acre - - - - -	\$ 5.35	\$ 9.90	\$ 8.91	\$ 6.86	\$ 6.86	\$ 8.51
Per \$100 gross earnings - - -	16	24	22	18	20	23
Horse and machinery cost per crop acre ^{1/} - - - - -	4.39	5.69	5.55	5.59	4.92	5.24
Improvement cost per acre - - -	1.15	1.64	1.53	1.59	1.41	1.27
Land tax per acre - - - - -	1.21	1.12	1.07	1.14	1.21	1.07

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Larger crop yields per acre on the farms on higher-quality land, which amounted to 3.4 bushels of corn, 3.5 bushels of oats, 1.2 bushels of barley, and 1.4 bushels of soybeans, indicate the relative productive level of the two groups of farms.

The operating expenses per acre averaged \$12.96 on the farms with the most tillable land and \$10.97 on the farms with the least tillable land. The combined cost per crop acre for labor, machinery, and horses was \$1.82 smaller on the farms with the larger percent of tillable land, but the combined cost per acre for improvements and taxes was \$.53 larger.

The livestock-efficiency factors, such as poultry returns per hen, hog returns per litter of pigs farrowed, and dairy returns per cow milked, were not appreciably affected by the quality of land. These factors indicate that the two groups of farms were operated with about the same degree of efficiency. Therefore, it may be assumed that the differences in organization, land use, crop yields, and costs were principally due to the differences in the productivity of the land on the two groups of farms.

Source of Income

The 454 farms were divided into six groups according to source of income (Table 4). The items in this table, for the most part, were made to correspond with the items given in Table 3; therefore, a farmer may compare the data in the "Your farm" column in Table 3 with the "Source of income" column in Table 4, which corresponds to the classification for his own farm.

In a comparison of the groups of farms the fact that conditions affecting production and price relationships vary from year to year should be kept in mind. Therefore, the average differences in earnings in 1939 are not necessarily typical of the variations that may be expected over a long period of years. The following items, for example, indicate that generally the grain farms were located on the better land: high value of land per acre, large percent of land area tillable, and large percent of land in grain.

The returns per \$100 feed that are necessary to pay for feed (including pasture) and other costs, according to 5-year averages of complete cost studies (1933-1937) are as follows: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117. There is little wonder, therefore, that the six groups of accounting farms with different classes and proportions of livestock varied widely in their returns per \$100 worth of feed fed. The amount of feed fed per acre to productive livestock averaged \$17.86 on the cattle farms but only \$6.25 on the grain farms.

Differences in expenses are significant for the six groups of farms. Labor input was highest on the cattle farms, where 25.9 months of labor were used, and lowest on the hog farms, where 18.8 months of labor were used; horse and machinery cost per crop acre averaged \$5.69 on the dairy farms, \$5.59 on the cattle farms, \$5.55 on the hog farms, and only \$4.39 on the grain farms; improvement costs per acre ranged from \$1.64 on the dairy farms to \$1.15 on the grain farms; and land taxes ranged from \$1.21 on the grain farms to \$1.07 on the hog farms.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 2, 1939

Items	Total acres in farm					
	41 to 120	121 to 200	201 to 280	281 to 360	361 to 440	441 or more
Number of farms - - - - -	75	199	97	50	20	13
Acres per farm - - - - -	102	167	239	316	398	554
<u>Investments</u>						
Total per farm - - - - -	\$16683	\$26633	\$37580	\$50005	\$63210	\$85135
Total per acre - - - - -	164	160	158	158	159	154
Land per acre - - - - -	88	92	90	95	92	99
Improvements per acre - - - - -	32	28	28	25	27	20
Machinery per acre ^{1/} - - - - -	12	11	11	10	9	9
<u>Earnings</u>						
Per farm						
Gross earnings - - - - -	\$2,846	\$4,314	\$5,815	\$7,445	\$8,956	\$13,026
Gross expenses ^{2/} - - - - -	1,599	2,136	2,781	3,577	4,435	5,680
Net earnings - - - - -	1,247	2,178	3,034	3,868	4,521	7,346
Per acre						
Gross earnings ^{2/} - - - - -	\$28.04	\$25.85	\$24.38	\$23.54	\$22.53	\$23.51
Gross expenses - - - - -	15.75	12.80	11.66	11.31	11.16	10.25
Net earnings - - - - -	12.29	13.05	12.72	12.23	11.37	13.26
Rate earned on investment - - - - -	7.5%	8.2%	8.1%	7.7%	7.2%	8.6%
Labor and management earnings - - - - -	\$ 967	\$1,406	\$1,724	\$1,866	\$1,895	\$3,690
<u>Size and Intensity</u>						
Percent land area tillable - - - - -	83.4	85.7	83.0	82.0	77.2	86.5
Percent tillable land in grain - - - - -	57.9	61.0	62.8	63.5	63.5	64.9
Percent in hay and pasture - - - - -	40.3	35.7	32.8	31.1	31.4	28.4
Feed fed per acre to prod. L. S. - - - - -	\$14.77	\$12.62	\$12.09	\$12.16	\$13.83	\$11.32
Percent of income from prod. L. S. - - - - -	78.4	69.0	69.4	68.9	76.7	65.5
Percent of income from grain - - - - -	2.4	12.7	14.5	15.3	8.1	21.0
Months of labor per 100 crop acres - - - - -	24.1	16.4	14.0	12.7	12.9	9.9
Total months of labor - - - - -	16.2	18.8	22.7	27.0	33.3	38.2
<u>Crop Yields Per Acre</u>						
Corn, bu. - - - - -	72.5	71.6	70.2	72.1	75.1	72.3
Oats, bu. - - - - -	38.8	39.0	39.7	40.9	39.7	38.5
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 159	\$ 149	\$ 146	\$ 139	\$ 129	\$ 139
Hog returns per litter - - - - -	73	72	71	74	79	66
Dairy returns per cow - - - - -	82	78	83	81	88	76
<u>Expense Factors</u>						
Labor cost per crop acre ^{2/} - - - - -	\$11.68	\$ 7.96	\$ 6.85	\$ 6.56	\$ 6.78	\$ 5.19
Labor cost per \$100 gross earnings - - - - -	28	21	19	19	20	15
Horse and machinery cost per crop A. ^{1/} - - - - -	6.31	5.22	4.83	5.36	4.82	4.94
Improvement cost per acre - - - - -	1.49	1.43	1.48	1.20	1.34	1.27
Land tax per acre - - - - -	1.17	1.17	1.09	1.01	1.17	1.07

^{1/} Includes farm share of automobile.^{2/} Includes operator's and family labor.

Size of Farm as Related to Earnings

The farm records in Farming-Type Area 2, when sorted according to the total acres in the farm, indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller farms. The operators on the larger farms took in more money during the year than did the operators on the smaller farms; and after deductions were made for farm business expenditures and interest on the investment, the 13 largest farms had labor and management earnings which averaged \$3,690 as contrasted with \$967 for the 75 smallest farms. The earnings, as measured by the rate earned on the investment, however, did not vary greatly among the different size groups. In years when the average rate earned on investment for groups of farms exceeds the capitalization rate (5 percent), the average labor and management earnings are higher on the larger farms than on the smaller ones, but these earnings are lower when the rate earned averages less than the capitalization rate.

The smaller farms were operated more intensively than were the larger farms. This variation was indicated by higher gross earnings per acre and by larger amounts of feed fed per acre to productive livestock.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and the source of farm income (Tables 6 and 7).

In this report an average was calculated for each county from which 30 or more records were received. Averages were made in some instances with less than 30 records if it was necessary to eliminate some records because they were incomplete or not typical for the area. In any tabulation containing as few as 30 records, part of the variation from county to county is due to the fact that the averages do not represent a cross section of the county.

The tabulations by counties and by groups of counties may be used by extension specialists, farm advisers, and county program-building committees to represent the type of farm organization and the level of operating efficiency attained by a selected group of progressive farmers in the various parts of a farming-type area. Since the personnel of the accounting group changes slowly, comparisons may be made from county to county and from year to year even though these records are from farms with efficiency which is higher than average.

TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 2, 1939

Items	DeKalb	Stephenson	Lee	Ogle
Number of farms - - - - -	138	63	53	47
<u>Capital Investments</u>				
Land- - - - -	\$25,255	\$10,635	\$28,963	\$16,963
Farm improvements - - - - -	6,603	5,376	5,669	5,290
Horses- - - - -	407	312	308	404
Productive livestock: Cattle- - - - -	2,773	1,942	2,162	2,157
Hogs- - - - -	850	698	756	914
Sheep - - - - -	191	19	210	111
Poultry - - - - -	100	134	92	97
<u>Total productive livestock</u> - - - - -	(3,914)	(2,793)	(3,220)	(3,279)
Feed and grain- - - - -	2,829	1,560	2,876	2,385
Machinery and equipment - - - - -	2,390	1,605	2,352	2,004
Automobile (farm share) - - - - -	181	152	217	215
Totals- - - - -	\$41,579	\$22,433	\$43,605	\$30,540
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ --	\$ --	\$ --	\$ --
Productive livestock: Cattle- - - - -	2,090	776	1,730	1,421
Dairy sales - - - - -	581	1,015	471	464
Hogs- - - - -	1,209	1,083	1,081	1,276
Sheep - - - - -	121	17	171	59
Poultry - - - - -	70	31	44	49
Egg sales - - - - -	139	232	115	121
<u>Total productive livestock</u> - - - - -	(4,210)	(3,154)	(3,612)	(3,390)
Farm products used in household - - - - -	235	252	249	250
Feed and grain - - - - -	1,011	--	1,956	648
Labor off farm - - - - -	41	18	74	40
Miscellaneous - - - - -	13	14	12	13
AAA payments- - - - -	693	301	949	479
Totals- - - - -	\$ 6,203	\$ 3,739	\$ 6,852	\$ 4,820
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ 342	\$ 218	\$ 333	\$ 300
Horses- - - - -	12	15	8	25
Productive livestock- - - - -	--	--	--	--
Feed and grain- - - - -	--	116	--	--
Machinery and equipment - - - - -	628	349	619	484
Automobile (farm share) - - - - -	120	74	116	103
Hired labor - - - - -	426	197	443	375
Miscellaneous - - - - -	37	25	51	23
Crop expense- - - - -	218	122	238	153
Livestock expense - - - - -	75	59	48	62
Taxes - - - - -	302	198	316	279
Totals- - - - -	\$ 2,160	\$ 1,373	\$ 2,172	\$ 1,804
Receipts less expenses- - - - -	\$ 4,043	\$ 2,366	\$ 4,680	\$ 3,016
Family labor- - - - -	159	170	150	212
Returns for labor, capital, mgt.- - - - -	3,884	2,196	4,530	2,804
Operator's labor- - - - -	568	564	559	546
Returns for capital and mgt.- - - - -	3,316	1,632	3,971	2,258
<u>Rate Earned on Investment</u> - - - - -	8.0%	7.3%	9.1%	7.4%
Interest on investment- - - - -	\$ 2,079	\$ 1,122	\$ 2,180	\$ 1,526
Labor and Management Earnings - - - - -	1,805	1,074	2,350	1,278
Nonfarm income - - - - -	\$ 23	\$ 94	\$ 48	\$ 148

TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 2, 1939 (Cont.)

Items	Rock Island	Jo Daviess	Winnebago	Whiteside & Carroll
Number of farms - - - - -	41	32	30	50
<u>Capital Investments</u>				
Land - - - - -	\$15,286	\$13,000	\$14,024	\$15,991
Farm improvements - - - - -	4,326	4,530	6,607	5,126
Horses - - - - -	347	423	419	414
Productive livestock: Cattle - - -	1,600	2,211	2,371	2,276
Hogs - - - - -	961	638	921	855
Sheep - - - - -	83	75	106	38
Poultry - - - - -	120	98	98	117
<u>Total productive livestock - - -</u>	<u>(2,764)</u>	<u>(3,022)</u>	<u>(3,496)</u>	<u>(3,286)</u>
Feed and grain - - - - -	1,958	1,402	2,111	2,004
Machinery and equipment - - - -	1,928	1,531	2,031	1,682
Automobile (farm share) - - - -	168	177	172	215
<u>Totals - - - - -</u>	<u>\$26,777</u>	<u>\$24,086</u>	<u>\$28,860</u>	<u>\$28,718</u>
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ --	--	--	--
Productive livestock: Cattle - - -	1,091	988	900	1,507
Dairy sales - - - - -	462	804	1,297	585
Hogs - - - - -	1,319	1,181	1,142	1,342
Sheep - - - - -	36	50	87	59
Poultry - - - - -	107	27	56	51
Egg sales - - - - -	165	145	124	155
<u>Total productive livestock - - -</u>	<u>(3,180)</u>	<u>(3,195)</u>	<u>(3,606)</u>	<u>(3,699)</u>
Farm products used in household -	310	260	251	234
Feed and grain - - - - -	837	--	199	--
Labor off farm - - - - -	51	13	32	27
Miscellaneous - - - - -	6	6	16	8
AAA payments - - - - -	539	306	442	577
<u>Totals - - - - -</u>	<u>\$ 4,923</u>	<u>\$ 3,780</u>	<u>\$ 4,546</u>	<u>\$ 4,545</u>
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ 222	\$ 221	\$ 308	\$ 274
Horses - - - - -	11	25	18	37
Productive livestock - - - - -	--	--	--	--
Feed and grain - - - - -	--	37	--	47
Machinery and equipment - - - -	413	376	466	434
Automobile (farm share) - - - -	90	79	106	91
Hired labor - - - - -	316	398	325	328
Miscellaneous - - - - -	33	24	30	30
Crop expense - - - - -	130	110	192	145
Livestock expense - - - - -	55	52	94	76
Taxes - - - - -	283	188	259	228
<u>Totals - - - - -</u>	<u>\$ 1,553</u>	<u>\$ 1,510</u>	<u>\$ 1,798</u>	<u>\$ 1,690</u>
Receipts less expenses - - - - -	\$ 3,370	\$ 2,270	\$ 2,748	\$ 2,855
Family labor - - - - -	217	142	254	182
Returns for labor, capital, mgt.-	3,153	2,128	2,494	2,673
Operator's labor - - - - -	539	538	570	518
Returns for capital and mgt. - -	2,614	1,590	1,924	2,155
<u>Rate Earned on Investment - - -</u>	<u>9.8%</u>	<u>6.6%</u>	<u>6.7%</u>	<u>7.5%</u>
Interest on investment - - - - -	\$ 1,338	\$ 1,205	\$ 1,443	\$ 1,436
Labor and Management Earnings -	1,815	923	1,051	1,237
<u>Nonfarm income - - - - -</u>	<u>\$ 32</u>	<u>\$ 98</u>	<u>\$ 22</u>	<u>\$ 185</u>

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 2, 1939

Items	DeKalb	Stephenson	Lee	Ogle
Rate earned on investment- - - - -	8.0%	7.3%	9.1%	7.4%
Acres in farm- - - - -	214	159	256	210
Acres in crops - - - - -	167	102	190	138
Gross earnings per acre- - - - -	\$ 28.95	\$ 23.47	\$ 26.78	\$ 22.91
Total expenses per acre ² - - - - -	13.47	13.23	11.26	12.18
Net earnings per acre- - - - -	15.48	10.24	15.52	10.73
<u>Investments</u>				
Value of land per acre - - - - -	\$ 118	\$ 67	\$ 113	\$ 81
Value of improvements per acre - -	31	34	22	25
Total investment per acre- - - - -	194	141	170	145
<u>Land Use</u>				
Percent of land area tillable- - -	91.0	84.6	88.2	80.3
Percent of tillable land in:				
Corn - - - - -	37.4	28.9	36.3	33.3
Oats - - - - -	19.8	19.1	20.7	24.6
Wheat- - - - -	1.2	.2	1.0	.7
Soybeans - - - - -	4.6	.2	7.1	3.0
Other crops- - - - -	9.3	6.8	8.6	5.4
Legume hay and pasture - - - - -	17.2	27.6	16.4	20.5
Nonlegume hay and pasture- - - -	10.5	17.2	9.9	12.5
<u>Crop Yields</u>				
Corn - - - - -	74.5	68.9	70.8	69.1
Oats - - - - -	44.4	34.0	40.2	38.8
Barley - - - - -	29.6	30.2	23.8	25.3
Soybeans - - - - -	25.4	23.3	27.8	25.3
<u>Livestock Factors</u>				
Value of feed fed to prod. L. S. -	\$ 3,110	\$ 2,334	\$ 2,443	\$ 2,535
Feed fed per acre to prod. L. S. -	14.51	14.65	9.55	12.05
Returns per acre from prod. L. S. -	20.44	20.83	14.77	16.94
Returns per \$100 worth of feed fed	141	142	155	141
Returns per \$100 invested in cattle	85	93	89	81
Poultry returns per hen- - - - -	2.15	2.31	2.42	2.37
Number of litters farrowed - - - -	19.3	15.9	18.2	17.7
Number of pigs weaned per litter -	5.8	6.4	5.8	6.3
Returns per litter farrowed- - - -	\$ 71	\$ 73	\$ 75	\$ 77
Average number of cows milked- - -	7.1	13.9	6.8	7.3
Dairy returns per cow milked - - -	\$ 93	\$ 77	\$ 79	\$ 73
<u>Expense Factors</u>				
Machinery cost per crop acre ¹ - -	\$ 4.48	\$ 4.15	\$ 3.87	\$ 4.24
Horse and machinery cost per crop A.	5.21	5.35	4.43	5.26
Labor cost per crop acre ² - - - -	6.65	8.95	5.88	7.90
Labor cost per \$100 gross earnings ²	18	24	16	23
Number of work horses- - - - -	3.1	3.1	2.7	3.3
Value of feed fed to horses- - - -	\$ 110	\$ 108	\$ 98	\$ 116
Improvement cost per acre- - - - -	1.60	1.37	1.30	1.43
Taxes per acre - - - - -	1.41	1.24	1.23	1.33

¹/ Includes farm share of automobile.

²/ Includes operator's and family labor.

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 2, 1939 (Cont.)

Items	Rock Island	Jo Daviess	Winnebago	Whiteside & Carroll
Rate earned on investment- - - - -	9.8%	6.6%	6.7%	7.5%
Acres in farm- - - - -	192	235	224	195
Acres in crops - - - - -	115	106	141	120
Gross earnings per acre- - - - -	\$ 25.64	\$ 16.08	\$ 20.29	\$ 23.31
Total expenses per acre ^{2/} - - - - -	12.03	9.32	11.70	12.26
Net earnings per acre - - - - -	13.61	6.76	8.59	11.05
<u>Investments</u>				
Value of land per acre - - - - -	\$ 80	\$ 55	\$ 63	\$ 82
Value of improvements per acre - - -	23	19	29	26
Total investment per acre- - - - -	139	102	129	147
<u>Land Use</u>				
Percent of land area tillable - - -	75.4	62.0	78.0	84.3
Percent of tillable land in:				
Corn - - - - -	38.8	26.2	31.0	32.0
Oats - - - - -	14.6	16.3	20.8	19.5
Wheat- - - - -	1.0	.7	.7	1.9
Soybeans - - - - -	1.4	--	1.6	.7
Other crops- - - - -	9.5	6.9	8.6	4.6
Legume hay and pasture - - - - -	22.7	20.4	25.5	21.3
Nonlegume hay and pasture- - - - -	12.0	29.5	11.8	20.0
<u>Crop Yields</u>				
Corn - - - - -	72.8	68.6	64.0	73.4
Oats - - - - -	33.6	36.8	29.8	39.1
Barley - - - - -	21.0	33.8	24.1	28.0
Soybeans - - - - -	25.2	--	17.8	22.5
<u>Livestock Factors</u>				
Value of feed fed to prod. L. S. - -	\$2,048	\$2,117	\$2,597	\$2,816
Feed fed per acre to prod. L. S. - -	10.67	9.00	11.59	14.44
Returns per acre from prod. L. S. - -	17.71	14.30	16.84	19.81
Returns per \$100 worth of feed fed -	166	159	145	137
Returns per \$100 invested in cattle- -	99	84	88	87
Poultry returns per hen- - - - -	2.64	1.90	2.38	2.05
Number of litters farrowed - - - -	18.6	17.4	16.7	20.9
Number of pigs weaned per litter - -	5.8	6.1	6.0	6.1
Returns per litter farrowed- - - -	\$ 68	\$ 71	\$ 73	\$ 72
Average number of cows milked- - -	7.4	12.6	15.5	8.9
Dairy returns per cow milked - - - -	\$ 75	\$ 69	\$ 88	\$ 73
<u>Expense Factors</u>				
Machinery cost per crop acre ^{1/} - - -	\$ 4.37	\$ 4.28	\$ 4.06	\$ 4.37
Horse and machinery cost per crop A. -	5.37	5.67	5.20	5.61
Labor cost per crop acre ^{2/} - - - -	9.14	10.03	7.94	8.33
Labor cost per \$100 gross earnings ^{2/} -	21	28	25	22
Number of work horses- - - - -	3.3	3.4	3.6	3.4
Value of feed fed to horses- - - -	\$ 104	\$ 122	\$ 142	\$ 112
Improvement cost per acre- - - -	1.16	.94	1.37	1.41
Taxes per acre - - - - -	1.47	.80	1.16	1.17

1/ Includes farm share of automobile.

2/ Includes operator's and family labor.

Influence of Price Changes on Illinois Farm Income

All feed and grain, livestock, and other farm property on accounting farms must be valued at both the beginning and the end of the year. Prices at inventory time, therefore, have a marked influence on farm earnings. The influence is greatest where large stocks or supplies are on hand at inventory time; for example, a much larger supply of farm products was found on Illinois farms December 31, 1939, than a year earlier. In fact, grain and livestock inventories have been increasing on Illinois farms since the drouth of 1936 as a result of three years of exceptionally high crop yields and the influence of Agricultural Adjustment Programs which have caused farmers to grow more hay and pasture and to store corn on farms under seal. According to estimates made by the Bureau of Agricultural Economics, U.S.D.A., 356 million bushels of corn were on Illinois farms January 1, 1940, as compared with 325 million bushels January 1, 1939.

Livestock numbers on Illinois farms increased sharply in 1939 even though 62 million bushels of 1937 and 1938 corn were placed under seal at the end of the year and 83 million bushels of 1939 corn were sealed by March 31, 1940. The following data indicate the percentage increase in livestock numbers on 2520 accounting farms in Illinois from the beginning to the end of 1939: dairy cows, 2 percent; beef cows, 21 percent; feeder cattle, 17 percent; feeder lambs, 24 percent; brood sows, 4 percent; spring pigs, 38 percent; summer pigs, 23 percent; and fall pigs, 28 percent. Hog numbers have been increasing since 1935 and have now attained record levels; for example, 15.5 sows farrowed per farm on accounting farms in 1939 as contrasted with 9.9 sows farrowed per farm in 1938. The increase in beef cattle numbers is a part of the general up-swing taking place over the entire United States, and it may be expected to continue for several years.

These data indicate that supplies of both feed and livestock were greater at the time the 1939 closing inventory was taken than at any other inventory period in several years, and price changes, therefore, are important in interpreting farm earnings for the state and for farming-type areas in 1939.

Prices of important farm products.--Prices for all crops as well as for beef cattle and sheep were higher at the end of 1939 than they were at the beginning, whereas prices for horses, hogs, and poultry were lower. Most of these price increases occurred during the last four months of the year.

December 15, Illinois Farm Prices

	<u>1938</u>	<u>1939</u>	<u>Increase</u>	<u>Decrease</u>
Corn, bu.	\$.42	\$.47	\$.05	\$ --
Oats, bu.	.24	.35	.11	--
Wheat, bu.	.57	.88	.31	--
Soybeans, bu.	.65	.95	.30	--
Hay, tons	6.20	6.50	.30	--
Horses, hd.	88.00	85.00	--	3.00
Hogs, cwt.	7.00	5.10	--	1.90
Beef cattle, cwt.	7.70	8.30	.60	--
Sheep, cwt.	3.45	3.60	.15	--
Chickens, lb.	.13	.11	--	.02

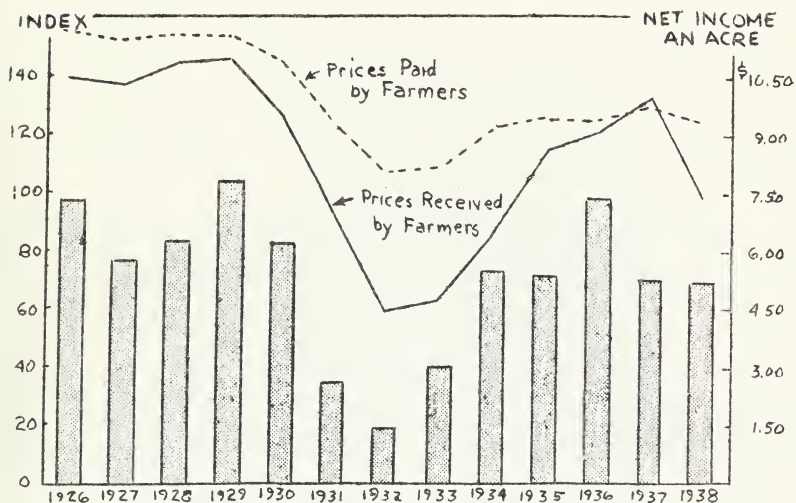


Fig. 1.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1938.

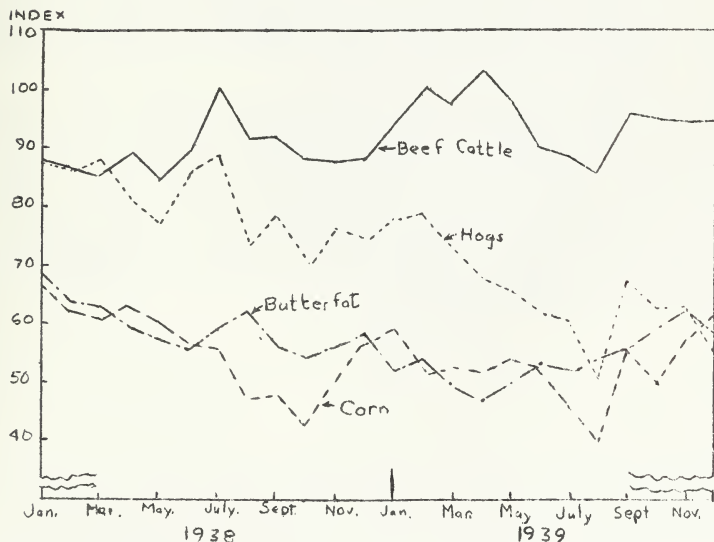


Fig. 2.--Monthly price indices of the average farm prices of corn, hogs, beef cattle, and butterfat, 1938 and 1939. (1924-1929 = 100)

Farm earnings are influenced by the average price received for farm products during the year as well as by the values at inventory time. Although nearly all commodities were higher in price at the end of the year than at the beginning, prices received for the following commodities averaged lower in 1939 than in 1938 by these amounts: corn, 2 cents per bushel; wheat and soybeans, 1 cent per bushel; hogs, \$1.50 per hundred; butterfat, 2 cents per pound; eggs, 3 cents per dozen; and chickens, 2 cents per pound. The prices for other commodities averaged higher in 1939 than in 1938 by the following amounts: oats, 4 cents per bushel; beef cattle, 50 cents per hundred; lambs, 42 cents per hundred; wool, 4 cents per pound; and apples, 12 cents per bushel.

Variation in earnings between the various type-of-farming areas is influenced by the relative prices of grains, livestock, and livestock products. In 1939 as in 1938 livestock had a price advantage over grain, but the advantage was not as marked as it was in 1938. The prices for meat animals dropped from 116 to 110 percent of the 1910-14 average, grains from 74 to 72 percent, chickens and eggs from 106 to 94 percent, and dairy products from 106 to 104 percent.

The corn-hog ratio also narrowed during the year to the disadvantage of the hog enterprise. The amount of corn equal in value to 100 pounds of hogs dropped from 19 bushels in February to 11 bushels in December (based on farm prices). Unfavorable feeding ratios will discourage expansion in hog numbers in 1940.

Crop Yields in Illinois, 1939

Crop yields in Illinois in 1939, as in 1938 and 1937, were unusually high. The weighted average yield of corn, oats, wheat, and soybeans was 133 percent of the 10-year average, 1929-1938. Corn contributed more than did any other crop to the high average yields. The yields of the various crops expressed in percentages of the 1929-1938 averages were: corn, 150; soybeans, 129; wheat, 121; and oats, 97.

Crop yields in all counties except Massac were above the 10-year average (1929-1938 = 100), but wide variations in yields occurred between individual counties and groups of counties. Four counties along the Ohio River had crop-yield indices under 105. In contrast to these counties, 31 were over 136. Many of the counties with the highest yields were in two groups, those located in southwestern and east north central Illinois. Crop-yield indices were adversely affected in southeastern Illinois by the wheat crop and in northern Illinois by low oat yields. Fifty-five counties, which were well-distributed over the state, had crop-yield indices from 121 to 135.

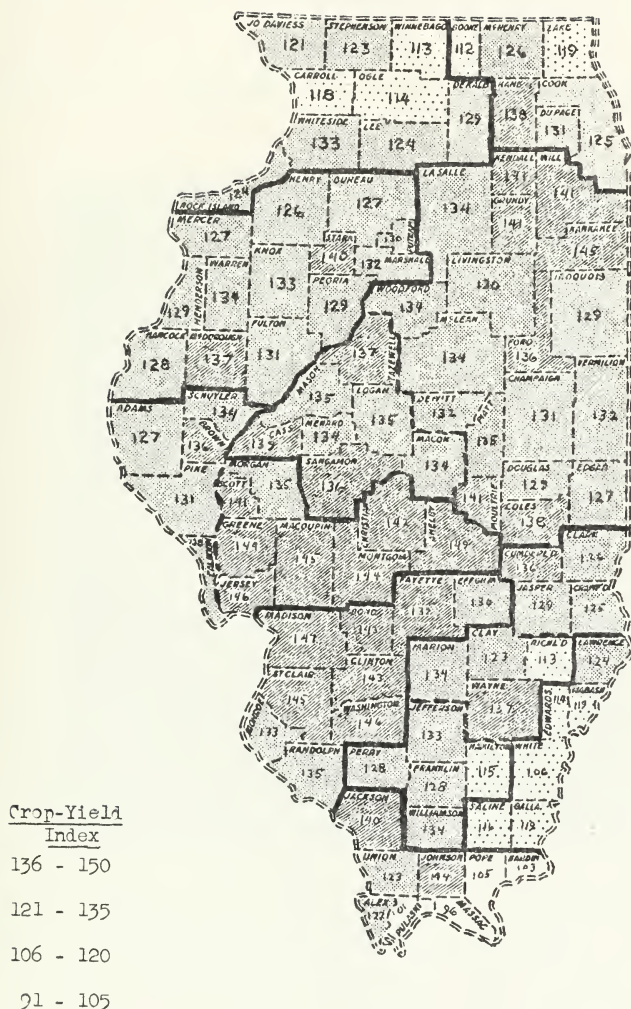


Fig. 3.--Crop yields for 1939, compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1939



FARMING-TYPE AREA THREE Western Livestock and Grain Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON FIVE HUNDRED ELEVEN FARMS IN FARMING-TYPE AREA 3, 1939

By P. E. Johnston, J. B. Cunningham, and E. N. Searls^{1/}

Farm earnings of accounting farms in Farming-Type Area 3 were higher in 1939 than in 1938. The net earnings per acre averaged \$14.06 in 1939, \$10.36 in 1938, \$10.83 in 1937, and \$13.14 in 1936. The items considered in calculating the net earnings included inventory changes, cash receipts, cash expenses, the value of the farm products used in the household (in 1938 and 1939 only), and unpaid family labor (Table 1).



 Farming-Type Area 3
Mixed Livestock

Since the value of farm products used in the household was not included in the records prior to 1938, the earnings for 1938 and 1939 are not strictly comparable to those for other years. The value per acre of farm products used was \$1.13 in 1938 and \$1.04 in 1939.

The accounting farms were larger than average, crop yields were above average, and the farms as a whole were operated with efficiency which was greater than average. Therefore, the figures contained in this report represent conditions which are better than average for this area. This fact is borne out by survey records taken in various areas of the state.

High crop yields and slightly more livestock, accompanied by increased industrial activity and improved demand for farm products, especially during the latter half of the year, were the principal factors producing higher earnings in 1939 (Figs. 1, 2, and 3).

^{1/} R. J. Mutti supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm accounts project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the farm advisers indicated:

H. K. Danforth, Henry County
Paul V. Dean, Bureau County
R. G. Benbow, McHenry County
A. R. Kemp, Knox County
J. W. Whisenand, Peoria County
J. E. Watt, Fulton County

E. D. Peterson, Mercer County
A. J. Rehling, Henderson County
L. L. Norton, Hancock County
E. H. Walworth, Warren County
L. J. Hager, Marshall-Putnam County
Wayne A. Gilbert, Stark County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 3, 1936-1939

Items	Your farm	Average of all farms in area			
		1939	1938	1937	1936
Number of farms- - - - -	--	511	500	342	277
Inventory Changes					
Farm improvements- - - - -	\$	\$ 187	\$ 127	\$ 92	\$ 44
Livestock- - - - -		249	274	153	-6
Feed and grain - - - - -		960	22	520	557
Machinery and equipment ^{1/} - - - - -		122	160	302	308
Automobile (farm share)- - - - -		22	-2	--	--
Totals - - - - -	\$	\$1,540	\$ 581	\$1,067	\$ 903
Cash Receipts					
Farm improvements- - - - -	\$	\$ 10	15	7	3
Horses - - - - -		55	54	70	96
Productive livestock: Cattle - - - - -		2,433	1,817	1,366	1,584
Dairy sales- - - - -		313	342	355	297
Hogs - - - - -		2,144	2,561	2,097	2,377
Sheep- - - - -		257	283	202	192
Poultry- - - - -		84	96	95	96
Egg sales - - - - -		109	116	123	126
Total productive livestock - - - - -		(5,340)	(5,215)	(4,238)	(4,672)
Feed and grain - - - - -		1,378	1,240	1,403	1,270
Machinery and equipment ^{1/} - - - - -		253	266	343	245
Automobile (farm share)- - - - -		55	35	--	--
Labor off farm - - - - -		44	58	91	103
Miscellaneous- - - - -		17	10	7	4
AAA payments - - - - -		782	193	172	225
Totals - - - - -	\$	\$7,934	\$7,086	\$6,331	\$6,618
Cash Expenses					
Farm improvements- - - - -	\$	\$ 479	\$ 389	\$ 314	\$ 257
Horses - - - - -		36	36	49	69
Productive livestock: Cattle - - - - -		1,369	955	600	496
Hogs - - - - -		146	142	119	203
Sheep- - - - -		174	179	133	59
Poultry- - - - -		24	24	20	26
Total productive livestock - - - - -		(1,713)	(1,300)	(872)	(784)
Feed and grain - - - - -		1,036	755	864	917
Machinery and equipment ^{1/} - - - - -		990	994	1,103	954
Automobile (farm share)- - - - -		179	139	--	--
Hired labor- - - - -		510	474	335	291
Miscellaneous- - - - -		41	40	26	27
Crop expense - - - - -		170	184	304	217
Livestock expense- - - - -		77	77	52	49
Taxes- - - - -		321	298	257	258
Totals - - - - -	\$	\$5,552	\$4,686	\$4,176	\$3,823
Summary					
Cash balance - - - - -	\$	\$2,382	\$2,400	\$2,155	\$2,795
Farm products used in household ^{2/} - - - - -		260	278	--	--
Total inventory change - - - - -		1,540	581	1,067	903
Receipts less expenses - - - - -		4,182	3,259	3,222	3,698
Total unpaid labor - - - - -		681	699	769	756
Net earnings per farm- - - - -	\$	\$3,501	\$2,560	\$2,453	\$2,942
Net earnings per acre- - - - -	\$	\$14.06	\$10.36	\$10.83	\$13.14

^{1/} Includes farm share of automobile for 1936 and 1937.

^{2/} Not included as income for 1936 and 1937.

Inventory Changes, Cash Receipts, Cash Expenses, and Earnings

Inventory changes.--The year 1939 was the fourth consecutive year of increasing inventories, the increases averaging \$1,540 in 1939, \$581 in 1938, \$1,067 in 1937, and \$903 in 1936 (Table 1). The largest increases in 1939 were in feed and grain and in livestock. The increased value of feed and grain represented higher prices at the end of the year as well as larger quantities of grain on hand (Page i and Fig. 2). The average amounts of grain on hand in Area 3 at the two inventory periods follow:

	<u>Beginning of year</u> (bushels)	<u>End of year</u> (bushels)
Corn	4,258	5,257
Oats	834	716
Wheat	82	106
Soybeans	121	149

Cash receipts.--Cash receipts reached the highest level in four years, averaging, \$7,934 in 1939 (Table 1). Receipts from AAA, as well as from total productive livestock and feed and grain, were larger in 1939 than in 1938. The larger AAA receipts were mainly due to a doubling-up in payments, many farmers receiving payments in 1939 for participation in both the 1938 and 1939 programs.

Cash expenses.--Cash expenses were larger in 1939 than in any of the last four years. The largest increases in expenditures were for cattle and feed and grain.

Earnings.--Cash receipts exceeded cash expenses in 1939 by \$2,382 or by a slightly smaller margin than in 1938. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The amounts deducted for operator's and family labor remained rather uniform during the 4-year period, a difference of only \$88 occurring between the low year, 1939, and the high year, 1937. The uniformity in valuation was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$50 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$3,501 in 1939 as contrasted with \$2,560 in 1938. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

TABLE 2---INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 3, 1939

Items	Your farm	Average of all farms	Land area tillable	
			85 percent or more	Less than 85 percent
Number of farms - - - - -	--	511	275	236
<u>Capital Investments</u>				
Land - - - - -	\$	\$23,904	\$25,560	\$21,974
Farm improvements - - - - -		4,943	4,875	5,023
Horses - - - - -		367	316	426
Productive livestock: Cattle - - -		2,000	1,837	2,191
Hogs - - - - -		1,120	1,076	1,171
Sheep - - - - -		132	108	160
Poultry - - - - -		89	86	92
Total productive livestock - - -	()	(3,341)	(3,107)	(3,614)
Feed and grain - - - - -		2,859	2,965	2,735
Machinery and equipment - - -		2,167	2,198	2,131
Automobile (farm share) - - -		188	181	198
Totals - - - - -	\$	\$37,769	\$39,202	\$36,101
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$	\$ --	\$ --	\$ --
Productive livestock: Cattle - - -		1,437	1,334	1,558
Dairy sales - - - - -		313	316	309
Hogs - - - - -		1,898	1,815	1,993
Sheep - - - - -		95	93	96
Poultry - - - - -		57	60	55
Egg sales - - - - -		109	107	113
Total productive livestock - - -	()	(3,909)	(3,725)	(4,124)
Farm products used in household -		260	251	270
Feed and grain - - - - -		1,302	1,666	879
Labor off farm - - - - -		44	41	47
Miscellaneous - - - - -		17	14	21
AAA payments - - - - -		782	818	740
Totals - - - - -	\$	\$ 6,314	\$ 6,515	\$ 6,081
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$	\$ 282	\$ 286	\$ 277
Horses - - - - -		14	16	12
Productive livestock - - - - -		--	--	--
Feed and grain - - - - -		--	--	--
Machinery and equipment - - -		615	625	603
Automobile (farm share) - - -		102	100	107
Hired labor - - - - -		510	466	561
Miscellaneous - - - - -		41	40	41
Crop expense - - - - -		170	171	170
Livestock expense - - - - -		77	72	83
Taxes - - - - -		321	323	318
Totals - - - - -	\$	\$ 2,132	\$ 2,099	\$ 2,172
Receipts less expenses - - - - -	\$	\$ 4,182	\$ 4,416	\$ 3,909
Family labor - - - - -		162	156	170
Returns for labor, capital, mgt. -		4,020	4,260	3,739
Operator's labor - - - - -		519	529	506
Returns for capital and mgt. - -		3,501	3,731	3,233
Rate Earned on Investment - - -	%	9.3%	9.5%	9.0%
Interest on investment - - - - -		\$ 1,889	\$ 1,960	\$ 1,805
Labor and Management Earnings -		2,131	2,300	1,934
Nonfarm income - - - - -	\$	\$ 46	\$ 53	\$ 38

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 3; for example, 62 farms earned less than 5 percent on the investment, with an average rate earned of 3.5 percent, but in contrast 40 farms earned 14 percent or more, with an average rate earned of 15.6 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had only \$45 left for labor and management earnings as contrasted with \$4,376 for the latter group. By studying the reasons for these variations, farm operators can improve their chances of financial success. The variation in earnings and in size of farm for all records in the area was as follows:

Rate earned on investment (percent)	Number of farms	Average rate earned (percent)	Acres per farm	Capital in- vested per farm	Gross earnings per farm	Net earnings per farm	Labor and management earnings
Less than 5	62	3.5	207	\$30,127	\$3,867	\$1,045	\$ 45
5 to 8	113	6.7	234	36,747	5,520	2,449	1,132
8 to 11	196	9.4	263	40,927	7,066	3,862	2,343
11 to 14	100	12.2	251	38,040	7,620	4,637	3,240
14 or more	40	15.6	286	36,356	8,915	5,670	4,376

Comparison of Farms According to Quality of Land

The 511 farms were divided into two groups according to the percent of land area tillable. Of this total number of farms 275 had 85 percent or more of land area tillable, and 236 had less than 85 percent tillable. The average percent tillable was 93.0 for the former group and 68.3 for the latter group.

This grouping of farms gives each farmer an opportunity to compare his farm with the average of other farms having a similar quality of land as well as with the average of all accounting farms (Tables 2 and 3).

The capital investment averaged \$39,202, or \$174 per acre, for the group of farms having the larger percent of land area tillable, as compared with a capital investment averaging \$36,101, or \$130 per acre, for the group of farms having the smaller percent of land area tillable.

The receipts and net increases were \$434 larger, but the expenses and net decreases were \$73 smaller on farms of higher-quality land than on those of lower-quality land. Total productive livestock receipts and net increases were \$399 smaller for the farms with the larger percent of land area tillable; whereas, the grain receipts were \$787 larger. The rate earned on investment was 9.5 percent and 9.0 percent, and the labor and management earnings were \$2,300 and \$1,934, respectively, for the two groups of farms.

The farms on higher-quality land were 52 acres smaller than were those on lower-quality land; yet the former had 10 acres more land in crops. They also had a larger percent of tillable land in corn, oats, and soybeans but a smaller percent in wheat. The amount of livestock per farm was larger on the farms with the most tillable land, as indicated by the value of feed fed to productive livestock and the capital invested in productive livestock (Table 3).

TABLE 3.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 3, 1939

Items	Your farm	Average of all farms	Land area tillable	
			85 percent or more	Less than 85 percent
Rate earned on investment- - - - -	_____ %	9.3%	9.5%	9.0%
Acres in farm- - - - -	_____	249	225	277
Acres in crops - - - - -	_____	163	167	157
Gross earnings per acre- - - - -	\$ _____	\$ 25.35	\$ 28.94	\$ 21.95
Total expenses per acre ^{2/} - - - - -	_____	11.29	12.36	10.28
Net earnings per acre - - - - -	_____	14.06	16.58	11.67
<u>Investments</u>				
Value of land per acre - - - - -	\$ _____	\$ 96	\$ 114	\$ 79
Value of improvements per acre - - -	_____	20	22	18
Total investment per acre- - - - -	_____	152	174	130
<u>Land Use</u>				
Percent of land area tillable- - - -	_____	80.3	93.0	68.3
Percent of tillable land in:				
Corn - - - - -	_____	36.7	37.2	36.2
Oats - - - - -	_____	15.5	16.1	14.6
Wheat- - - - -	_____	4.0	3.1	5.2
Soybeans - - - - -	_____	6.8	7.1	6.4
Other crops- - - - -	_____	7.3	6.5	8.3
Legume hay and pasture - - - - -	_____	18.8	18.7	18.9
Nonlegume hay and pasture- - - - -	_____	10.9	11.3	10.4
<u>Crop Yields</u>				
Corn - - - - -	_____	70.4	72.2	68.0
Oats - - - - -	_____	37.8	39.4	35.5
Wheat- - - - -	_____	22.9	25.0	21.6
Soybeans - - - - -	_____	29.0	30.1	27.3
<u>Livestock Factors</u>				
Value of feed fed to prod. L. S. - -	\$ _____	\$2,620	\$2,539	\$2,715
Feed fed per acre to prod. L. S. - -	_____	10.52	11.28	9.80
Returns per acre from prod. L. S. - -	_____	16.47	17.40	15.59
Returns per \$100 worth of feed fed -	_____	157	154	159
Returns per \$100 invested in cattle- -	_____	85	88	82
Poultry returns per hen- - - - -	_____	2.43	2.44	2.43
Number of litters farrowed - - - - -	_____	26.9	26.3	27.6
Number of pigs weaned per litter - -	_____	6.1	6.0	6.2
Returns per litter farrowed- - - - -	\$ _____	\$ 75	\$ 74	\$ 77
Average number of cows milked- - -	_____	5.4	5.3	5.5
Dairy returns per cow milked - - - -	\$ _____	\$ 73	\$ 75	71
<u>Expense Factors</u>				
Machinery cost per crop acre ^{1/} - - -	\$ _____	\$ 4.41	\$ 4.34	4.52
Horse and machinery cost per crop A.	_____	5.21	5.05	5.44
Labor cost per crop acre ^{2/} - - - -	_____	7.06	6.64	7.57
Labor cost per \$100 gross earnings ^{2/}	_____	18	17	20
Number of work horses- - - - -	_____	3.3	3.0	3.6
Value of feed fed to horses- - - - -	\$ _____	\$ 116	\$ 103	\$ 133
Improvement cost per acre- - - - -	_____	1.13	1.27	1.00
Taxes per acre - - - - -	_____	1.29	1.43	1.15

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS,
FARMS WITH LESS THAN 85 PERCENT OF THE LAND AREA TILLABLE

Accounting Farms in Farming-Type Area 3, 1939

The numbers above the lines across the middle of the page are the averages for the 236 farms included in this group for the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings									Total expense per acre	Factors that affect expenses		
			Percent tillable land in legume hay and pasture	Crop yields			Feed fed per acre to prod. L. S.	Returns per \$100 feed fed	Poultry returns per hen	Hog returns per litter farrowed	Dairy returns per cow milked		Horse and machinery cost per crop acre	Labor cost per crop acre	Labor cost per \$100 gross earnings
				Corn, bu.	Oats, bu.	Soybeans, bu.									
19	477	37	34	98	60	37	20	209	3.93	127	121	--	--	3	10
17	437	34	31	92	55	35	18	199	3.63	117	111	2	1	4	12
15	397	31	28	86	50	33	16	189	3.33	107	101	4	2	5	14
13	357	28	25	80	45	31	14	179	3.03	97	91	6	3	6	16
11	317	25	22	74	40	29	12	169	2.73	87	81	8	4	7	18
9.0	277	21.25	18.9	68.0	35.5	27.3	9.80	159	2.43	77	71	10.28	5.44	7.57	20
7	237	19	16	62	30	25	8	149	2.13	67	61	12	6	9	22
5	197	16	13	56	25	23	6	139	1.83	57	51	14	7	10	24
3	157	13	10	50	20	21	4	129	1.53	47	41	16	8	11	26
1	117	10	7	44	15	19	2	119	1.23	37	31	18	9	12	28
-1	77	7	4	38	10	17	--	109	.93	27	21	20	10	13	30

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 3, 1939

Items	Source of income					
	Grain 40% +	Dairy sales 40% +	Hogs 40% +	Cattle 40% +	General L.S. 60% -	farms L.S. 60% +
Number of farms - - - - -	119	6	115	55	135	81
Percent income from prod. L.S. - -	29.8	86.9	83.2	84.8	49.5	72.8
Percent income from crops - - - -	53.3	--	--	--	30.5	10.1
<u>Investments</u>						
Total per farm - - - - -	\$39,585	\$25,058	\$33,991	\$56,817	\$33,775	\$34,124
Total per acre - - - - -	156	204	147	173	143	140
Land per acre - - - - -	108	101	89	101	93	88
Improvements per acre - - - - -	17	51	21	24	19	19
Machinery per acre ¹ - - - - -	9	17	9	10	9	9
<u>Earnings</u>						
Per farm						
Gross earnings - - - - -	\$ 6,571	\$ 4,967	\$ 5,871	\$10,055	\$ 5,646	\$ 5,602
Gross expenses ² - - - - -	2,738	3,179	2,706	4,587	2,541	2,661
Net earnings - - - - -	3,833	1,788	3,165	5,468	3,105	2,941
Per acre						
Gross earnings - - - - -	\$ 25.93	\$ 40.38	\$ 25.30	\$ 30.53	\$ 23.95	\$ 22.94
Gross expenses ² - - - - -	10.80	25.84	11.66	13.93	10.78	10.90
Net earnings - - - - -	15.13	14.54	13.64	16.60	13.17	12.04
Rate earned on investment - - -	9.7%	7.1%	9.3%	9.6%	9.2%	8.6%
Labor and mgt. earnings - - -	\$ 2,358	\$ 1,134	\$ 1,969	\$ 3,149	\$ 1,952	\$ 1,707
<u>Size and Intensity</u>						
Acres per farm - - - - -	253	123	232	329	236	244
Percent land area tillable - -	87.8	81.3	77.0	77.5	81.6	73.9
Percent tillable land in grain -	69.0	45.2	61.4	62.7	63.8	63.1
Percent in hay and pasture - -	23.4	46.8	33.3	33.1	29.7	31.3
Feed fed per acre to prod. L.S. \$	5.24	\$ 15.90	\$ 14.21	\$ 18.10	\$ 7.67	\$ 11.04
Months of labor per 100 crop A.	10.6	40.3	15.9	14.9	13.1	15.9
Total months of labor - - - -	20.1	27.5	22.2	30.6	20.4	23.2
<u>Crop Yields Per Acre</u>						
Corn, bu. - - - - -	71.3	79.5	70.7	76.6	67.4	66.7
Oats, bu. - - - - -	39.4	34.3	38.4	40.6	35.2	36.3
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 160	\$ 230	\$ 154	\$ 147	\$ 165	\$ 159
Hog returns per litter - - - -	65	58	84	77	70	70
Dairy returns per cow - - - - -	66	153	67	65	73	70
<u>Expense Factors</u>						
Labor cost ²						
Per crop acre - - - - -	\$ 5.46	\$ 21.30	\$ 8.23	\$ 7.95	\$ 6.67	\$ 7.85
Per \$100 gross earnings - - -	16	29	20	16	18	20
Horse and machinery cost						
per crop acre ¹ - - - - -	4.65	11.82	5.61	6.07	4.86	5.35
Improvement cost per acre - -	1.09	2.11	1.15	1.37	1.03	1.07
Land tax per acre - - - - -	1.18	1.45	1.09	1.15	1.14	1.11

¹ Includes farm share of automobile.

² Includes operator's and family labor.

Larger crop yields per acre on the farms on higher-quality land, which amounted to 4.2 bushels of corn, 3.9 bushels of oats, 3.4 bushels of wheat, and 2.8 bushels of soybeans, indicate the relative productive level of the two groups of farms.

The operating expenses per acre averaged \$12.36 on the farms with the most tillable land and \$10.28 on the farms with the least tillable land. The combined cost per crop acre for labor, machinery, and horses was \$1.32 smaller on the farms with the larger percent of tillable land, but the combined cost per acre for improvements and taxes was \$.55 larger.

The livestock-efficiency factors, such as poultry returns per hen, hog returns per litter of pigs farrowed, and dairy returns per cow milked, were not appreciably affected by the quality of land. These factors indicate that the two groups of farms were operated with about the same degree of efficiency. Therefore, it may be assumed that the differences in organization, land use, crop yields, and costs were principally due to the differences in the productivity of the land on the two groups of farms.

Source of Income

The 511 farms were divided into six groups according to source of income (Table 4). The items in this table, for the most part, were made to correspond with the items given in Table 3; therefore, a farmer may compare the data in the "Your farm" column in Table 3 with the "Source of income" column in Table 4, which corresponds to the classification for his own farm.

In a comparison of the groups of farms the fact that conditions affecting production and price relationships vary from year to year should be kept in mind. Therefore, the average differences in earnings in 1939 are not necessarily typical of the variations that may be expected over a long period of years. The following items, for example, indicate that generally the grain farms were located on the better land: high value of land per acre, large percent of land area tillable, large percent of land in grain, high yield of corn per acre, and land tax per acre.

The returns per \$100 feed that are necessary to pay for feed (including pasture) and other costs, according to 5-year averages of complete cost studies (1933-1937), are as follows: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117. There is little wonder, therefore, that the six groups of accounting farms with different classes and proportions of livestock varied widely in their returns per \$100 worth of feed fed. The amount of feed fed per acre to productive livestock averaged \$18.10 on the cattle farms but only \$5.24 on the grain farms.

Differences in expenses are significant for the six groups of farms. Labor input per crop acre was highest on the cattle farms, where 30.6 months of labor were used, and lowest on the grain farms, where 20.1 months of labor were used; horse and machinery cost per crop acre averaged \$11.82 on the dairy farms, \$6.07 on the cattle farms, \$5.61 on the hog farms, and only \$4.65 on the grain farms; improvement costs per acre ranged from \$1.03 on the general farms with the least livestock to \$2.11 on the dairy farms; and land taxes ranged from \$1.09 on the hog farms to \$1.18 on the grain farms.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 3, 1939

Items	Total acres in farm					
	Less than 121	121 to 200	201 to 280	281 to 360	361 to 440	441 or more
Number of farms - - - - -	56	172	124	88	38	33
Acres per farm - - - - -	100	166	242	321	396	599
<u>Investments</u>						
Total per farm- - - - -	\$15,353	\$26,248	\$37,781	\$49,140	\$58,744	\$81,349
Total per acre- - - - -	154	158	156	153	148	136
Land per acre - - - - -	93	98	102	96	94	86
Improvements per acre - - - - -	23	22	19	19	19	19
Machinery per acre ¹ - - - - -	10	11	9	9	9	8
<u>Earnings</u>						
Per farm						
Gross earnings- - - - -	\$ 2,658	\$ 4,459	\$ 6,260	\$ 8,055	\$ 9,872	\$13,649
Gross expenses ² - - - - -	1,427	2,117	2,706	3,455	4,219	5,864
Net earnings - - - - -	1,231	2,342	3,554	4,600	5,653	7,785
Per acre						
Gross earnings ² - - - - -	\$ 26.69	\$ 26.80	\$ 25.87	\$ 25.08	\$ 24.95	\$ 22.78
Gross expenses ² - - - - -	14.33	12.72	11.18	10.76	10.66	9.79
Net earnings - - - - -	12.36	14.08	14.69	14.32	14.29	12.99
Rate earned on investment - - -	8.0%	8.9%	9.4%	9.4%	9.6%	9.6%
Labor and management earnings -	\$ 944	\$ 1,550	\$ 2,175	\$ 2,693	\$ 3,242	\$ 4,230
<u>Size and Intensity</u>						
Percent land area tillable- - -	85.8	84.4	82.8	80.9	76.2	71.4
Percent tillable land in grain- -	60.5	62.9	66.0	63.0	64.4	67.0
Percent in hay and pasture- - -	36.2	32.6	28.3	29.6	29.5	24.7
Feed fed per acre to prod. L.S. \$	11.29	\$ 11.21	\$ 10.00	\$ 10.71	\$ 10.58	\$ 9.78
Percent of income from prod.L.S.	60.7	63.4	58.3	64.9	62.9	60.6
Percent of income from grain- -	17.7	18.1	23.8	18.2	20.3	24.5
Months of labor per 100 crop A.	21.1	16.5	13.2	12.4	12.6	11.0
Total months of labor - - - - -	13.8	18.2	21.9	26.0	31.0	40.5
<u>Crop Yields Per Acre</u>						
Corn, bu. - - - - -	70.2	70.4	70.4	69.2	72.5	70.4
Oats, bu. - - - - -	36.5	38.6	37.7	38.1	37.2	36.3
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 157	161	159	158	153	145
Hog returns per litter- - - - -	66	76	76	77	75	74
Dairy returns per cow - - - - -	65	76	66	69	81	89
<u>Expense Factors</u>						
Labor cost per crop acre ² - - -	\$ 10.35	\$ 8.24	\$ 6.66	\$ 6.51	\$ 6.63	\$ 6.05
Labor cost per \$100 gross earnings- - - - -	25	20	18	17	17	16
Horse and machinery cost per crop acre ¹ - - - - -	5.84	5.69	4.97	5.11	5.33	4.81
Improvement cost per acre - - -	1.41	1.20	1.17	.99	1.14	1.07
Land tax per acre - - - - -	1.28	1.20	1.12	1.14	1.12	1.04

¹/ Includes farm share of automobile.

²/ Includes operator's and family labor.

Size of Farm as Related to Earnings

The farm records in Farming-Type Area 3, when sorted according to the total acres in the farm, indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller farms. The operators on the larger farms took in more money during the year than did the operators on the smaller farms; and after deductions were made for farm business expenditures and interest on the investment, the 33 largest farms had labor and management earnings which averaged \$4,230 as contrasted with \$944 for the 56 smallest farms. The earnings, as measured by the rate earned on the investment, were slightly larger for the largest farms than for the smallest farms. In years when the average rate earned on investment for groups of farms exceeds the capitalization rate (5 percent) the average labor and management earnings are higher on the larger farms than on the smaller ones, but these earnings are lower when the rate earned averages less than the capitalization rate.

The smaller farms were operated more intensively than were the larger farms. This variation was indicated by the larger amount of feed fed per acre to productive livestock and by the larger number of months of labor per 100 crop acres.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in farms, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and the source of farm income (Tables 6 and 7).

In this report an average was calculated for each county from which 30 or more records were received. Averages were made in some instances with less than 30 records if it was necessary to eliminate some records because they were incomplete or not typical for the area. In any tabulation containing as few as 30 records, part of the variation from county to county is due to the fact that the averages do not represent a cross section of the county.

The tabulations by counties and by groups of counties may be used by extension specialists, farm advisers, and county program-building committees to represent the type of farm organization and the level of operating efficiency attained by a selected group of progressive farmers in the various parts of a farming-type area. Since the personnel of the accounting group changes slowly, comparisons may be made from county to county and from year to year even though these records are from farms with efficiency which is higher than average.

TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 3, 1939

Items	Henry	Bureau	McDonough	Knox
Number of farms - - - - -	78	57	51	48
<u>Capital Investments</u>				
Land - - - - -	\$23,970	\$24,030	\$26,384	\$24,245
Farm improvements - - - - -	5,552	5,536	4,710	5,122
Horses - - - - -	359	314	381	299
Productive livestock: Cattle - - -	2,530	1,949	1,674	1,565
Hogs - - -	1,198	1,038	1,446	839
Sheep - - -	142	228	74	137
Poultry - -	92	94	89	75
Total productive livestock - - -	(3,962)	(3,309)	(3,283)	(2,616)
Feed and grain - - - - -	2,963	2,528	3,092	2,951
Machinery and equipment - - - -	2,297	2,157	2,327	2,139
Automobile (farm share) - - - -	201	174	152	192
Totals - - - - -	\$39,304	\$38,048	\$40,329	\$37,564
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ --	\$ --	\$ 10	--
Productive livestock: Cattle - - -	1,851	1,364	1,584	923
Dairy sales	344	358	198	448
Hogs - - -	1,937	1,595	2,690	1,367
Sheep - - -	90	144	40	75
Poultry - -	47	97	72	32
Egg sales -	133	123	107	83
Total productive livestock - - -	(4,402)	(3,681)	(4,691)	(2,928)
Farm products used in household -	256	269	290	241
Feed and grain - - - - -	815	1,220	1,352	2,188
Labor off farm - - - - -	30	45	44	49
Miscellaneous - - - - -	21	14	12	24
AAA payments - - - - -	866	817	831	612
Totals - - - - -	\$ 6,390	\$ 6,046	\$ 7,230	\$ 6,042
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ 288	\$ 300	\$ 286	\$ 258
Horses - - - - -	20	12	--	18
Productive livestock - - - - -	--	--	--	--
Feed and grain - - - - -	--	--	--	--
Machinery and equipment - - - -	615	594	597	648
Automobile (farm share) - - - -	99	108	103	99
Hired labor - - - - -	492	427	578	503
Miscellaneous - - - - -	36	36	46	41
Crop expense - - - - -	187	168	190	199
Livestock expense - - - - -	67	75	102	82
Taxes - - - - -	347	248	316	323
Totals - - - - -	\$ 2,151	\$ 1,968	\$ 2,218	\$ 2,171
Receipts less expenses - - - - -	\$ 4,239	\$ 4,078	\$ 5,012	\$ 3,871
Family labor - - - - -	227	179	140	121
Returns for labor, capital, mgt.	4,012	3,899	4,872	3,750
Operator's labor - - - - -	514	508	525	516
Returns for capital and mgt. -	3,498	3,391	4,347	3,234
Rate Earned on Investment - - - -	8.9%	8.9%	10.8%	8.6%
Interest on investment - - - - -	\$ 1,965	\$ 1,902	\$ 2,017	\$ 1,878
Labor and Management Earnings - -	2,047	1,997	2,855	1,872
Nonfarm income - - - - -	\$ 29	\$ 16	\$ 64	\$ 33

TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 3, 1939 (Cont.)

Pecunia	Fulton	Mercer	Henderson	Hancock	Warren	Marshall- Putnam	Stark
45	40	37	33	30	30	34	28
\$22,490	\$18,621	\$24,282	\$20,028	\$18,163	\$27,615	\$32,414	\$24,084
4,530	4,262	4,874	4,214	3,992	5,358	6,101	3,917
370	299	485	516	345	483	388	223
1,388	1,575	2,710	2,783	1,406	2,291	1,084	2,777
954	852	1,349	1,358	703	1,261	1,279	1,128
26	122	53	68	53	216	168	321
110	73	98	72	82	79	108	82
(2,478)	(2,622)	(4,210)	(4,281)	(2,244)	(3,847)	(4,332)	(2,615)
2,518	2,135	3,106	3,048	1,983	3,542	3,787	2,775
2,133	1,905	1,987	2,395	1,615	2,296	2,284	2,297
204	187	213	186	143	194	222	192
\$34,723	\$30,031	\$39,157	\$34,668	\$28,485	\$43,335	\$49,528	\$36,103
\$ --	\$ --	\$ --	\$ 12	\$ --	\$ --	\$ --	\$ --
884	904	1,902	2,329	873	1,736	2,016	614
428	240	329	143	350	234	317	250
1,623	1,766	1,928	2,330	1,328	2,233	2,379	1,612
76	117	51	59	44	95	148	221
50	60	53	57	51	49	56	58
159	80	128	90	75	83	117	89
(3,220)	(3,167)	(4,391)	(5,008)	(2,721)	(4,430)	(5,033)	(2,844)
253	241	255	279	252	253	273	248
1,553	963	895	678	1,160	1,596	1,519	2,150
69	40	44	46	29	38	45	53
10	8	5	30	15	26	32	9
725	609	783	879	415	1,002	1,098	672
\$ 5,830	\$ 5,028	\$ 6,373	\$ 6,932	\$ 4,592	\$ 7,345	\$ 8,000	\$ 5,976
\$ 258	\$ 276	\$ 286	\$ 294	\$ 184	\$ 341	\$ 365	\$ 221
37	7	20	--	17	21	8	30
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
514	601	604	747	408	722	757	609
96	93	122	94	85	113	131	97
460	389	609	643	451	578	620	443
43	35	50	46	23	41	53	40
124	130	167	217	102	188	183	163
60	56	91	118	54	96	73	54
298	325	395	321	255	323	391	315
\$ 1,890	\$ 1,912	\$ 2,344	\$ 2,480	\$ 1,579	\$ 2,423	\$ 2,581	\$ 1,972
\$ 3,940	\$ 3,116	\$ 4,029	\$ 4,452	\$ 3,013	\$ 4,922	\$ 5,419	\$ 4,004
133	126	167	182	168	164	145	138
3,807	2,990	3,862	4,270	2,845	4,758	5,274	3,866
482	517	549	560	475	514	536	549
3,325	2,473	3,313	3,710	2,370	4,244	4,738	3,317
9.6%	8.2%	8.5%	10.7%	8.3%	9.8%	9.6%	9.2%
\$ 1,736	\$ 1,501	\$ 1,958	\$ 1,734	\$ 1,424	\$ 2,167	\$ 2,476	\$ 1,805
2,071	1,489	1,904	2,536	1,421	2,591	2,798	2,061
\$ 40	\$ 34	\$ 37	\$ 58	\$ 160	\$ 82	\$ 35	\$ 23

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 3, 1939

Items	Henry	Bureau	McDonough	Knox
Rate earned on investment- - - - -	8.9%	8.9%	10.8%	8.6%
Acres in farm- - - - -	236	217	262	244
Acres in crops - - - - -	154	154	175	166
Gross earnings per acre- - - - -	\$ 27.10	\$ 27.91	\$ 27.64	\$ 24.76
Total expenses per acre ^{2/} - - - - -	12.27	12.26	11.02	11.51
Net earnings per acre- - - - -	14.83	15.65	16.62	13.25
<u>Investments</u>				
Value of land per acre - - - - -	\$ 102	\$ 111	\$ 101	\$ 99
Value of improvements per acre - - - -	24	26	18	21
Total investment per acre- - - - -	167	176	154	154
<u>Land Use</u>				
Percent of land area tillable- - - - -	84.6	84.5	81.7	83.2
Percent of tillable land in:				
Corn - - - - -	38.3	39.0	34.9	35.8
Oats - - - - -	17.9	21.9	13.4	11.4
Wheat- - - - -	1.0	1.2	8.4	2.6
Soybeans - - - - -	3.1	3.5	9.6	11.8
Other crops- - - - -	4.8	6.9	6.2	7.6
Legume hay and pasture - - - - -	22.1	17.5	18.0	15.8
Nonlegume hay and pasture- - - - -	12.8	10.0	9.5	15.0
<u>Crop Yields</u>				
Corn - - - - -	73.6	73.1	69.9	71.9
Oats - - - - -	38.9	38.6	44.4	35.8
Wheat- - - - -	24.1	19.5	27.2	24.3
Soybeans - - - - -	29.3	26.9	31.2	30.7
<u>Livestock Factors</u>				
Value of feed fed to prod. L. S. - - -	\$3,131	\$2,506	\$3,033	\$1,920
Feed fed per acre to prod. L. S. - - -	13.28	11.57	11.59	7.87
Returns per acre from prod. L. S.- - -	19.49	17.90	18.78	12.74
Returns per \$100 worth of feed fed - -	147	155	162	162
Returns per \$100 invested in cattle- -	85	84	97	82
Poultry returns per hen - - - - -	2.44	2.72	2.69	2.25
Number of litters farrowed - - - - -	30.2	22.0	32.0	22.9
Number of pigs weaned per litter - - -	6.0	6.2	6.2	6.0
Returns per litter farrowed- - - - -	\$ 71	\$ 82	\$ 83	\$ 67
Average number of cows milked- - - -	5.5	6.4	4.1	6.5
Dairy returns per cow milked - - - -	\$ 78	\$ 68	\$ 71	\$ 81
<u>Expense Factors</u>				
Machinery cost per crop acre ^{1/} - - - -	\$ 4.63	\$ 4.55	\$ 4.01	\$ 4.51
Horses and machinery cost per crop acre ^{1/} - - - - -	5.48	5.30	4.62	5.29
Labor cost per crop acre ^{2/} - - - - -	7.80	6.92	6.86	6.59
Labor cost per \$100 gross earnings ^{2/} -	19	18	17	18
Number of work horses- - - - -	3.1	3.4	3.3	3.0
Value of feed fed to horses- - - - -	\$ 112	\$ 104	\$ 118	\$ 110
Improvement cost per acre- - - - -	1.22	1.39	1.09	1.06
Taxes per acre - - - - -	1.47	1.14	1.21	1.32

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 3, 1939 (Cont.)

Peoria	Fulton	Mercer	Henderson	Hancock	Warren	Marshall- Putnam	Stark
9.6%	8.2%	8.5%	10.7%	8.3%	9.8%	9.6%	9.2%
224 150	255 153	270 152	276 168	236 137	278 187	305 207	228 164
\$ 26.09 11.21 14.88	\$ 19.74 10.03 9.71	\$ 23.61 11.34 12.27	\$ 25.10 11.67 13.43	\$ 19.47 9.42 10.05	\$ 26.45 11.17 15.28	\$ 26.21 10.69 15.52	\$ 26.22 11.67 14.55
\$ 101 20 155	\$ 73 17 118	\$ 90 18 145	\$ 73 15 126	\$ 77 17 121	\$ 99 19 156	\$ 106 20 162	\$ 106 17 158
81.0	73.8	70.4	74.2	77.3	84.2	77.7	87.4
35.4 16.9 2.8 8.9 8.2 20.3 7.5	32.1 12.0 10.7 7.6 7.8 18.8 11.0	41.0 11.9 .8 3.2 9.7 19.3 14.1	37.8 13.9 5.8 7.4 7.8 16.7 10.6	27.1 11.5 8.8 10.8 9.5 17.9 14.4	40.3 14.0 3.1 6.4 6.4 19.3 10.5	37.3 17.9 5.9 5.7 8.9 18.0 6.3	39.6 19.4 .8 6.3 7.7 18.8 7.4
69.8 36.5 25.0 28.7	63.5 38.7 19.5 28.1	72.2 33.3 25.6 29.2	68.8 31.8 23.8 26.3	59.6 36.8 19.8 26.1	71.3 36.9 25.8 28.1	68.2 37.1 20.1 31.6	71.3 37.9 24.4 27.1
\$2,018 9.03 15.21 168 95 2.39 23.4 6.0	\$2,196 8.62 13.17 153 76 2.58 28.6 5.8	\$2,981 11.04 16.95 154 83 2.33 26.2 6.0	\$3,343 12.10 18.91 156 85 2.49 28.9 6.5	\$1,767 7.49 12.30 164 81 2.32 19.9 6.2	\$3,044 10.96 16.63 152 86 2.24 31.0 6.4	\$3,244 10.63 17.14 161 81 2.17 33.0 5.9	\$1,831 8.03 13.33 166 74 2.29 24.0 5.5
\$ 79 5.2 \$ 96	\$ 70 5.2 \$ 61	\$ 69 5.4 \$ 76	\$ 74 3.8 \$ 62	\$ 75 7.1 \$ 61	\$ 76 5.1 \$ 59	\$ 82 5.2 \$ 76	\$ 70 5.3 \$ 63
\$ 4.06 5.18 6.85 18	4.53 5.16 6.48 20	4.79 5.70 8.44 20	\$ 5.01 5.84 7.97 19	\$ 3.60 4.57 7.77 23	\$ 4.47 5.43 6.53 17	\$ 4.29 4.96 6.07 16	\$ 4.30 4.92 6.67 18
3.5 \$ 131 1.15 1.33	2.6 \$ 90 1.08 1.28	4.1 \$ 119 1.06 1.46	3.7 \$ 151 1.06 1.16	3.5 \$ 117 .78 1.08	3.9 \$ 157 1.23 1.16	3.0 \$ 130 1.20 1.28	2.3 \$ 72 .97 1.38

Influence of Price Changes on Illinois Farm Income

All feed and grain, livestock, and other farm property on accounting farms must be valued at both the beginning and the end of the year. Prices at inventory time, therefore, have a marked influence on farm earnings. The influence is greatest where large stocks or supplies are on hand at inventory time; for example, a much larger supply of farm products was found on Illinois farms December 31, 1939, than a year earlier. In fact, grain and livestock inventories have been increasing on Illinois farms since the drouth of 1936 as a result of three years of exceptionally high crop yields and the influence of Agricultural Adjustment Programs which have caused farmers to grow more hay and pasture and to store corn on farms under seal. According to estimates made by the Bureau of Agricultural Economics, U.S.D.A., 356 million bushels of corn were on Illinois farms January 1, 1940, as compared with 325 million bushels January 1, 1939.

Livestock numbers on Illinois farms increased sharply in 1939 even though 62 million bushels of 1937 and 1938 corn were placed under seal at the end of the year and 83 million bushels of 1939 corn were sealed by March 31, 1940. The following data indicate the percentage increase in livestock numbers on 2520 accounting farms in Illinois from the beginning to the end of 1939: dairy cows, 2 percent; beef cows, 21 percent; feeder cattle, 17 percent; feeder lambs, 24 percent; brood sows, 4 percent; spring pigs, 38 percent; summer pigs, 23 percent; and fall pigs, 28 percent. Hog numbers have been increasing since 1935 and have now attained record levels; for example, 13.5 sows farrowed per farm on accounting farms in 1939 as contrasted with 9.9 sows farrowed per farm in 1938. The increase in beef cattle numbers is a part of the general up-swing taking place over the entire United States, and it may be expected to continue for several years.

These data indicate that supplies of both feed and livestock were greater at the time the 1939 closing inventory was taken than at any other inventory period in several years, and price changes, therefore, are important in interpreting farm earnings for the state and for farming-type areas in 1939.

Prices of important farm products.--Prices for all crops as well as for beef cattle and sheep were higher at the end of 1939 than they were at the beginning, whereas prices for horses, hogs, and poultry were lower. Most of these price increases occurred during the last four months of the year.

December 15, Illinois Farm Prices

	<u>1938</u>	<u>1939</u>	<u>Increase</u>	<u>Decrease</u>
Corn, bu.	\$.42	\$.47	\$.05	\$ --
Oats, bu.	.24	.35	.11	--
Wheat, bu.	.57	.88	.31	--
Soybeans, bu.	.65	.95	.30	--
Hay, tons	6.20	6.50	.30	--
Horses, hd.	88.00	85.00	--	3.00
Hogs, cwt.	7.00	5.10	--	1.90
Beef cattle, cwt.	7.70	8.30	.60	--
Sheep, cwt.	3.45	3.60	.15	--
Chickens, lb.	.13	.11	--	.02

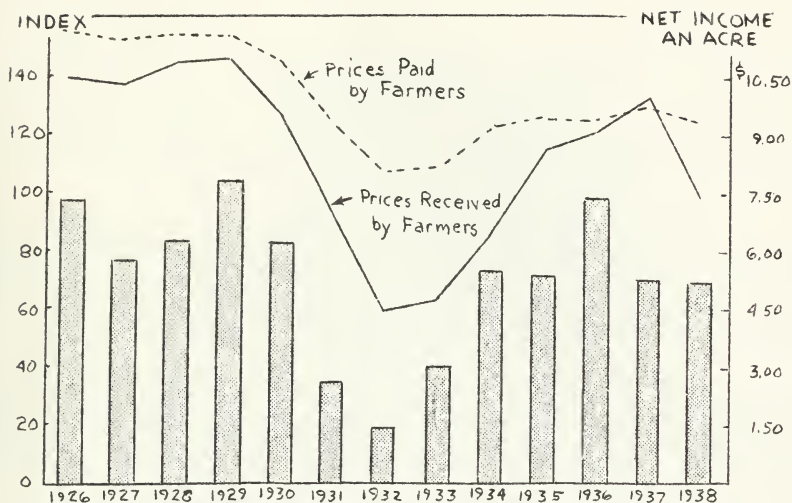


Fig. 1.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1938.

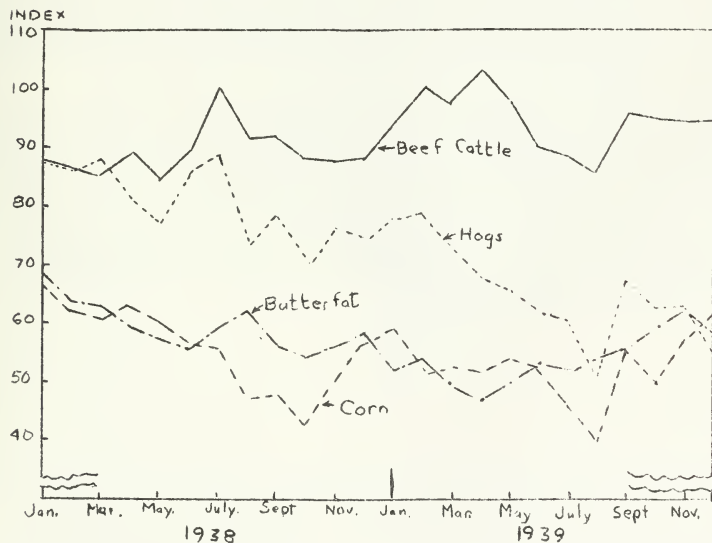


Fig. 2.--Monthly price indices of the average farm prices of corn, hogs, beef cattle, and butterfat, 1938 and 1939. (1924-1929 = 100)

Farm earnings are influenced by the average price received for farm products during the year as well as by the values at inventory time. Although nearly all commodities were higher in price at the end of the year than at the beginning, prices received for the following commodities averaged lower in 1939 than in 1938 by these amounts: corn, 2 cents per bushel; wheat and soybeans, 1 cent per bushel; hogs, \$1.50 per hundred; butterfat, 2 cents per pound; eggs, 3 cents per dozen; and chickens, 2 cents per pound. The prices for other commodities averaged higher in 1939 than in 1938 by the following amounts: oats, 4 cents per bushel; beef cattle, 50 cents per hundred; lambs, 42 cents per hundred; wool, 4 cents per pound; and apples, 12 cents per bushel.

Variation in earnings between the various type-of-farming areas is influenced by the relative prices of grains, livestock, and livestock products. In 1939 as in 1938 livestock had a price advantage over grain, but the advantage was not as marked as it was in 1938. The prices for meat animals dropped from 116 to 110 percent of the 1910-14 average, grains from 74 to 72 percent, chickens and eggs from 106 to 74 percent, and dairy products from 106 to 104 percent.

The corn-hog ratio also narrowed during the year to the disadvantage of the hog enterprise. The amount of corn equal in value to 100 pounds of hogs dropped from 19 bushels in February to 11 bushels in December (based on farm prices). Unfavorable feeding ratios will discourage expansion in hog numbers in 1940.

Crop Yields in Illinois, 1939

Crop yields in Illinois in 1939, as in 1938 and 1937, were unusually high. The weighted average yield of corn, oats, wheat, and soybeans was 133 percent of the 10-year average, 1929-1938. Corn contributed more than did any other crop to the high average yields. The yields of the various crops expressed in percentages of the 1929-1938 averages were: corn, 150; soybeans, 129; wheat, 121; and oats, 97.

Crop yields in all counties except Massac were above the 10-year average (1929-1938 = 100), but wide variations in yields occurred between individual counties and groups of counties. Four counties along the Ohio River had crop-yield indices under 105. In contrast to these counties, 31 were over 136. Many of the counties with the highest yields were in two groups, those located in southwestern and east north central Illinois. Crop-yield indices were adversely affected in southeastern Illinois by the wheat crop and in northern Illinois by low oat yields. Fifty-five counties, which were well-distributed over the state, had crop-yield indices from 121 to 135.

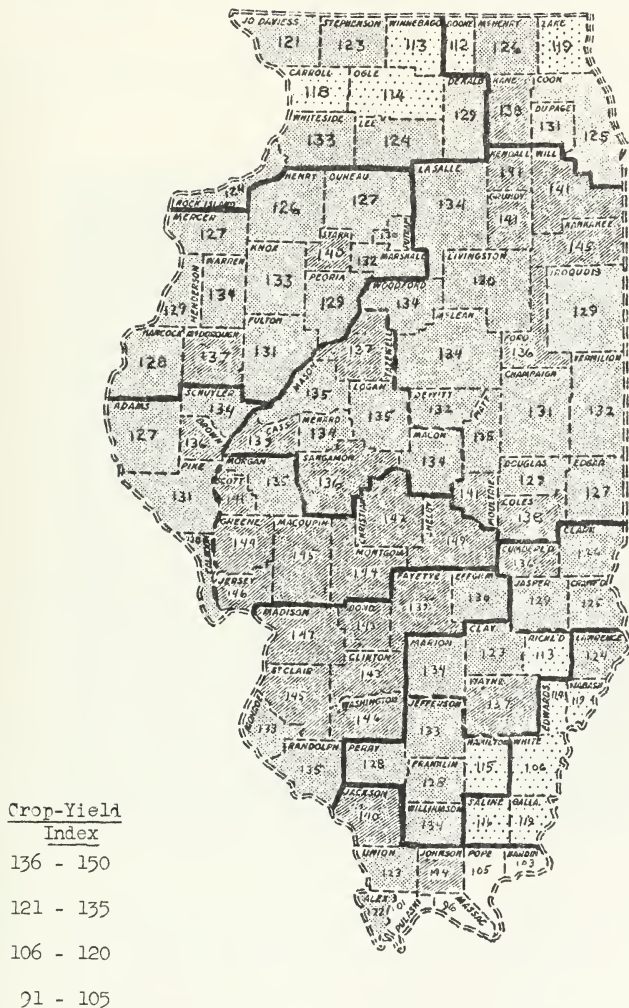


Fig. 3.--Crop yields for 1939, compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1939



FARMING-TYPE AREA FOUR East Central Cash Grain Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON FIVE HUNDRED FIFTY-NINE FARMS IN FARMING-TYPE AREA 4, 1939

By P. E. Johnston, J. B. Cunningham, and E. M. Hughes^{1/}

Farm earnings of accounting farms in Farming-Type Area 4 were higher in 1939 than in 1938. The net earnings per acre averaged \$12.60 in 1939, \$9.67 in 1938, \$10.30 in 1937, and \$13.15 in 1936. The items considered in calculating the net earnings included inventory changes, cash receipts, cash expenses, the value of the farm products used in the household (in 1938 and 1939 only), and unpaid family labor (Table 1).



Farming-Type Area 4
Cash grain

Since the value of farm products used in the household was not included in the records prior to 1938, the earnings for 1938 and 1939 are not strictly comparable to those for other years. The value per acre of farm products used was \$1.01 in 1938 and \$.88 in 1939.

The accounting farms were larger than average, crop yields were above average, and the farms as a whole were operated with efficiency which was greater than average. Therefore, the figures contained in this report represent conditions which are better than average for this area. This fact is borne out by survey records taken in various areas of the state.

High crop yields and larger AAA payments, accompanied by increased industrial activity and improved demand for farm products, especially during the latter half of the year, were the principal factors producing higher earnings in 1939 (Figs. 1, 2, and 3).

^{1/} R. J. Mutti supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm accounts project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the farm advisers indicated:

H. D. Triplett, Ford County
J. E. Harris, Champaign County
I. E. Parett, Vermilion County
H. D. VanMatre, Iroquois County
G. T. Swaim, Kankakee County
L. W. Chalcraft, Menard County
J. R. Gilkey, Macon County
Edwin Bay, Sangamon County
L. W. Braham, Will County

R. V. Watson, Mason County
E. O. Johnston, Piatt County
Paul M. Krows, Moultrie County
G. H. Husted, Cass County
H. N. Myers, DeWitt County
N. H. Anderson, Logan County
L. E. McKinzie, Edgar County
W. S. Myers, Coles County
J. Q. Scott, Douglas County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 4, 1936-1939

Items	Your farm	Average of all farms in area			
		1939	1938	1937	1936
Number of farms- - - - -	--	559	767	494	421
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$	\$ 155	\$ 116	\$ 84	\$ 13
Livestock- - - - -		159	107	119	65
Feed and grain - - - - -		994	134	489	441
Machinery and equipment ^{1/} - - - - -		99	162	337	334
Automobile (farm share)- - - - -		10		--	--
Totals - - - - -	\$	\$1,417	\$ 519	\$1,029	\$ 853
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$	\$ 13	\$ 12	\$ 3	\$ 3
Horses - - - - -		62	80	107	93
Productive livestock: Cattle - - - - -		1,382	1,312	986	1,051
Dairy sales- - - - -		367	491	492	411
Hogs - - - - -		945	1,283	1,094	1,098
Sheep- - - - -		118	180	64	83
Poultry- - - - -		102	118	125	118
Egg sales- - - - -		130	172	163	141
Total productive livestock - - - - -	()	(3,044)	(3,556)	(2,924)	(2,902)
Feed and grain - - - - -		2,466	2,355	2,456	3,047
Machinery and equipment ^{1/} - - - - -		280	313	341	290
Automobile (farm share)- - - - -		38	36	--	--
Labor off farm - - - - -		50	67	88	110
Miscellaneous- - - - -		11	7	6	7
AAA payments - - - - -		679	250	201	255
Totals - - - - -	\$	\$6,643	\$6,676	\$6,126	\$6,707
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$	\$ 421	\$ 401	\$ 306	\$ 221
Horses - - - - -		33	34	54	64
Productive livestock: Cattle - - - - -		782	702	496	394
Hogs - - - - -		115	107	82	107
Sheep- - - - -		64	108	20	33
Poultry- - - - -		30	33	29	34
Total productive livestock - - - - -	()	(991)	(950)	(627)	(568)
Feed and grain - - - - -		535	434	479	429
Machinery and equipment ^{1/} - - - - -		1,042	1,138	1,212	1,093
Automobile (farm share)- - - - -		164	155	--	--
Hired labor- - - - -		432	458	376	326
Miscellaneous- - - - -		29	36	28	31
Crop expense - - - - -		153	184	331	267
Livestock expense- - - - -		56	54	39	41
Taxes- - - - -		373	360	319	319
Totals - - - - -	\$	\$4,229	\$4,204	\$3,771	\$3,359
<u>Summary</u>					
Cash balance - - - - -	\$	\$2,414	\$2,472	\$2,355	\$3,348
Farm products used in household ^{2/} - - - - -		235	265	--	--
Total inventory change - - - - -		1,417	519	1,029	853
Receipts less expenses - - - - -		4,066	3,256	3,384	4,201
Total unpaid labor - - - - -		695	712	757	780
Net earnings per farm- - - - -	\$	\$3,371	\$2,544	\$2,627	\$3,421
Net earnings per acre- - - - -	\$	\$12.60	\$ 9.67	\$10.30	\$13.15

^{1/} Includes farm share of automobile for 1936 and 1937.

^{2/} Not included as income for 1936 and 1937.

Inventory Changes, Cash Receipts, Cash Expenses, and Earnings

Inventory changes.--The year 1939 was the fourth consecutive year of increasing inventories, the increases averaging \$1,417 in 1939, \$519 in 1938, \$1,029 in 1937, and \$853 in 1936 (Table 1). The largest increases in 1939 were in feed and grain. The increased value of feed and grain represented higher prices at the end of the year as well as larger quantities of grain on hand (Page 1 and Fig. 2). The average amounts of grain on hand in Area 4 at the two inventory periods follow:

	<u>Beginning of year (bushels)</u>	<u>End of year (bushels)</u>
Corn	4,281	5,241
Oats	740	582
Wheat	69	187
Soybeans	221	255

Cash receipts.--Cash receipts averaged \$6,643 in 1939 (Table 1). Feed and grain and AAA receipts were larger in 1939 than in 1938, but total productive livestock sales were smaller. The larger AAA receipts were mainly due to a doubling-up in payments, many farmers receiving payments in 1939 for participation in both the 1938 and 1939 programs.

Cash expenses.--Cash expenses were larger in 1939 than in any of the last four years. Less money was spent for machinery in 1939 than in any other year of the last four years, although more was spent for productive livestock and feed and grain.

Earnings.--Cash receipts exceeded cash expenses in 1939 by \$2,414. Cash balance, the difference between receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The amounts deducted for operator's and family labor remained rather uniform during the 4-year period, a difference of only \$85 occurring between the low year, 1939, and the high year, 1936. The uniformity in valuation was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$50 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$3371 in 1939 as contrasted with \$2,544 in 1938. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

TABLE 2.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 4, 1939

Items	Your farm	Average of all farms	Land area tillable	
			93 percent or more	Less than 93 percent
Number of farms - - - - -	--	559	326	233
<u>Capital Investments</u>				
Land - - - - -	\$ _____	\$28,902	\$31,412	\$25,389
Farm improvements - - - - -	_____	4,122	4,143	4,094
Horses - - - - -	_____	413	420	402
Productive livestock: Cattle - - - - -	_____	1,323	1,241	1,438
Hogs - - - - -	_____	469	429	524
Sheep - - - - -	_____	104	113	91
Poultry - - - - -	_____	101	103	99
Total productive livestock - - - - -	()	(1,997)	(1,886)	(2,152)
Feed and grain - - - - -	_____	2,963	3,175	2,668
Machinery and equipment - - - - -	_____	2,172	2,195	2,140
Automobile (farm share) - - - - -	_____	194	204	180
Totals - - - - -	\$ _____	\$40,763	\$43,435	\$37,025
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ _____	\$ --	\$ --	\$ --
Productive livestock: Cattle - - - - -	_____	840	782	922
Dairy sales - - - - -	_____	367	351	390
Hogs - - - - -	_____	807	731	912
Sheep - - - - -	_____	48	45	52
Poultry - - - - -	_____	68	70	66
Egg sales - - - - -	_____	130	133	126
Total productive livestock - - - - -	()	(2,260)	(2,112)	(2,468)
Farm products used in household - - - - -	_____	235	230	242
Feed and grain - - - - -	_____	2,925	3,370	2,302
Labor off farm - - - - -	_____	50	45	56
Miscellaneous - - - - -	_____	11	7	16
AAA payments - - - - -	_____	679	724	615
Totals - - - - -	\$ _____	\$ 6,160	\$ 6,488	\$ 5,699
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ _____	\$ 253	\$ 248	\$ 259
Horses - - - - -	_____	19	23	15
Productive livestock - - - - -	_____	--	--	--
Feed and grain - - - - -	_____	--	--	--
Machinery and equipment - - - - -	_____	663	677	642
Automobile (farm share) - - - - -	_____	116	120	111
Hired labor - - - - -	_____	432	424	442
Miscellaneous - - - - -	_____	29	28	31
Crop expense - - - - -	_____	153	149	160
Livestock expense - - - - -	_____	56	53	60
Taxes - - - - -	_____	373	387	353
Totals - - - - -	\$ _____	\$ 2,094	\$ 2,109	\$ 2,073
Receipts less expenses - - - - -	\$ _____	\$ 4,066	\$ 4,379	\$ 3,626
Family labor - - - - -	_____	164	162	168
Returns for labor, capital, mgt. - - - - -	_____	3,902	4,217	3,458
Operator's labor - - - - -	_____	531	541	515
Returns for capital and mgt. - - - - -	_____	3,371	3,676	2,943
Rate Earned on Investment - - - - -	%	8.3%	8.5%	7.9%
Interest on investment - - - - -	\$ _____	\$ 2,039	\$ 2,171	\$ 1,851
Labor and Management Earnings - - - - -	_____	1,863	2,046	1,607
Nonfarm income - - - - -	\$ _____	\$ 116	\$ 135	\$ 88

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 4; for example, 39 farms earned less than 4 percent on the investment, with an average rate earned of 2.4 percent, but in contrast 33 farms earned 13 percent or more, with an average rate earned of 14.8 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$208 for labor and management earnings as contrasted with a gain of \$4,021 for the latter group. By studying the reasons for these variations, farm operators can improve their chances of financial success. The variation in earnings and in size of farm for all records in the areas was as follows:

Rate earned on investment (percent)	Number of farms	Average rate earned (percent)	Acres per farm	Capital in- vested per farm	Gross earnings per farm	Net earnings per farm	Labor and management earnings
Less than 4	39	2.4	194	\$28,410	\$3,325	\$ 693	\$ -208
4 to 7	157	5.6	250	40,523	5,216	2,289	787
7 to 10	213	8.4	275	43,522	6,599	3,640	1,999
10 to 13	117	11.3	295	41,588	7,499	4,686	3,142
13 or more	33	14.8	294	35,773	8,124	5,278	4,021

Comparison of Farms According to Quality of Land

The 559 farms were divided into two groups according to the percent of land area tillable. Of this total number of farms, 326 had 93 percent or more of land area tillable, and 233 had less than 93 percent tillable. The average percent tillable was 96.1 for the former group and 83.6 for the latter group.

This grouping of farms gives each farmer an opportunity to compare his farm with the average of other farms having a similar quality of land as well as with the average of all accounting farms (Tables 2 and 3).

The capital investment averaged \$43,435, or \$166 per acre, for the group of farms having the larger percent of land area tillable, as compared with a capital investment averaging \$37,025, or \$134 per acre, for the group of farms having the smaller percent of land area tillable.

The receipts and net increases were \$789 larger and expenses and net decreases \$36 larger on farms of higher-quality land than on those of lower-quality land; the livestock receipts were \$356 smaller, whereas the grain receipts were \$1,068 larger. The rate earned on investment was 8.5 percent and 7.9 percent and the labor and management earnings were \$2,046 and \$1,607, respectively, for the two groups of farms.

The farms on higher-quality land were 13 acres smaller than were those on lower-quality land; yet the former had 15 acres more land in crops. They also had a larger percent of tillable land in corn, oats, and soybeans but a smaller percent in wheat. The amount of livestock per farm, however, was larger on the farms with the lower-quality land, as indicated by the value of feed fed to productive livestock and the capital invested in productive livestock (Tables 2 and 3)

TABLE 3.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 4, 1939

Items	Your farm	Average of all farms	Land area tillable	
			75 percent or more	Less than 75 percent
Rate earned on investment - - - - -	_____ %	8.3%	8.5%	7.9%
Acres in farm- - - - -	_____	268	262	275
Acres in crops - - - - -	_____	179	205	190
Gross earnings per acre- - - - -	\$ _____	\$ 23.02	\$ 24.75	\$ 20.70
Total expenses per acre ^{2/} - - - - -	_____	10.42	10.73	10.01
Net earnings per acre - - - - -	_____	12.60	14.02	10.69
<u>Investments</u>				
Value of land per acre - - - - -	\$ _____	\$ 108	\$ 120	\$ 92
Value of improvements per acre - - - - -	_____	15	16	15
Total investment per acre- - - - -	_____	152	166	134
<u>Land Use</u>				
Percent of land area tillable- - - - -	_____	90.7	96.1	83.6
Percent of tillable land in:				
Corn - - - - -	_____	32.9	33.3	32.4
Oats - - - - -	_____	11.3	12.0	10.3
Wheat- - - - -	_____	8.3	7.2	9.9
Soybeans - - - - -	_____	15.7	16.3	14.7
Other crops- - - - -	_____	8.5	7.8	9.6
Legume hay and pasture - - - - -	_____	14.1	13.8	14.5
Nonlegume hay and pasture- - - - -	_____	9.2	9.6	8.6
<u>Crop Yields</u>				
Corn - - - - -	_____	62.4	63.6	60.5
Oats - - - - -	_____	32.8	33.0	32.6
Wheat- - - - -	_____	23.9	24.9	23.0
Soybeans - - - - -	_____	27.9	29.1	25.8
<u>Livestock Factors</u>				
Value of feed fed to prod. L. S. - - -	\$ _____	\$1,544	\$1,410	\$1,729
Feed fed per acre to prod. L. S. - - -	_____	5.77	5.38	6.28
Returns per acre from prod. L. S.- - -	_____	9.12	8.73	9.63
Returns per \$100 worth of feed fed - - -	_____	158	162	153
Returns per \$100 invested in cattle- - -	_____	90	90	90
Poultry returns per hen- - - - -	_____	2.55	2.57	2.50
Number of litters farrowed - - - - -	_____	13.3	12.8	14.0
Number of pigs weaned per litter - - - -	_____	6.2	5.9	6.4
Returns per litter farrowed- - - - -	\$ _____	\$ 73	\$ 71	\$ 77
Average number of cows milked- - - - -	_____	5.3	5.2	5.5
Dairy returns per cow milked - - - - -	\$ _____	\$ 84	\$ 82	\$ 85
<u>Expense Factors</u>				
Machinery cost per crop acre ^{1/} - - -	\$ _____	\$ 3.91	\$ 3.88	\$ 3.95
Horse and machinery cost per crop A. - - -	_____	4.54	4.50	4.61
Labor cost per crop acre ^{2/} - - - - -	_____	5.40	5.27	5.75
Labor cost per \$100 gross earnings ^{2/} - - -	_____	18	17	19
Number of work horses- - - - -	_____	3.4	3.4	3.4
Value of feed fed to horses- - - - -	\$ _____	\$ 106	\$ 104	\$ 110
Improvement cost per acre- - - - -	_____	.95	.95	.94
Taxes per acre - - - - -	_____	1.39	1.48	1.28

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS,
FARMS WITH LESS THAN 93 PERCENT OF THE LAND AREA TILLABLE

Accounting Farms in Farming-Type Area 4, 1939

The numbers above the lines across the middle of the page are the averages for the 233 farms included in this group for the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings										Total expense per acre	Factors that affect expenses		
			Percent tillable land in legume hay and pasture	Crop yields			Feed fed per acre to prod. L. S.	Returns per \$100 feed fed	Poultry returns per hen	Hog returns per litter farrowed	Dairy returns per cow milked	Horse and machinery cost per crop acre		Labor cost per crop acre	Labor cost per \$100 gross earnings	
				Corn, bu.	Oats, bu.	Soybeans, bu.										
18	475	31	25	80	53	36	11	203	4.00	127	135	5	2.11	2.00	9	
16	435	29	23	76	49	34	10	193	3.70	117	125	6	2.61	2.75	11	
14	395	27	21	72	45	32	9	183	3.40	107	115	7	3.11	3.50	13	
12	355	25	19	68	41	30	8	173	3.10	97	105	8	3.61	4.25	15	
10	315	23	17	64	37	28	7	163	2.80	87	95	9	4.11	5.00	17	
7.9	275	20.70	14.5	60.5	32.6	25.8	6.28	153	2.50	77	85	10.01	4.61	5.75	19	
6	235	19	13	56	29	24	5	143	2.20	67	75	11	5.11	6.50	21	
4	195	17	11	52	25	22	4	133	1.90	57	65	12	5.61	7.25	23	
2	155	15	9	48	21	20	3	123	1.60	47	55	13	6.11	8.00	25	
0	115	13	7	44	17	18	2	113	1.30	37	45	14	6.61	8.75	27	
-2	75	11	5	40	13	16	1	103	1.00	27	35	15	7.11	9.50	29	

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 4, 1939

Items	Source of income					
	Grain 40% +	Dairy sales 40% +	Hogs 40% +	Cattle 40% +	General farms L.S. 60% -	L.S. 60% +
Number of farms - - - - -	370	12	24	32	83	38
Percent income from prod. L.S. - -	23.6	73.0	75.7	84.8	46.9	67.9
Percent income from crops - - -	60.8	15.2	9.4	1.8	34.2	15.7
<u>Investments</u>						
Total per farm - - - - -	\$424.87	\$30,864	\$35,017	\$52,070	\$33,309	\$37,491
Total per acre - - - - -	154	159	153	159	145	143
Land per acre - - - - -	113	95	102	101	98	93
Improvements per acre - - - -	15	25	17	16	16	17
Machinery per acre ^{1/} - - - - -	8.92	9.78	10.16	8.78	8.76	8.33
<u>Earnings</u>						
Per farm						
Gross earnings - - - - -	\$6,326	\$5,573	\$5,183	\$7,632	\$5,292	\$5,997
Gross expenses ^{2/} - - - - -	2,777	2,817	2,662	3,296	2,555	3,065
Net earnings - - - - -	3,549	2,756	2,521	4,336	2,737	2,932
Per acre						
Gross earnings - - - - -	\$22.89	\$28.64	\$22.70	\$23.27	\$23.01	\$22.92
Gross expenses ^{2/} - - - - -	10.05	14.48	11.66	10.05	11.11	11.71
Net earnings - - - - -	12.84	14.16	11.04	13.22	11.90	11.21
Rate earned on investment - - -	8.4%	8.9%	7.2%	8.3%	8.2%	7.8%
Labor and mgt. earnings - - -	\$1,958	\$1,786	\$1,301	\$2,212	\$1,599	\$1,604
<u>Size and Intensity</u>						
Acres per farm - - - - -	276	195	228	328	230	262
Percent land area tillable - -	92.3	85.0	85.7	85.3	90.0	86.4
Percent tillable land in grain -	71.5	57.0	62.2	60.2	64.9	63.4
Percent in hay and pasture - -	20.1	41.1	25.6	34.2	28.5	31.8
Feed fed per acre to prod. L.S. \$	3.65	\$11.69	\$11.47	\$14.27	\$ 7.27	\$11.15
Months of labor per 100 crop A.	9.9	19.7	13.9	13.2	12.8	14.1
Total months of labor - - - -	21.1	24.4	21.1	27.5	21.2	24.8
<u>Crop Yields Per Acre</u>						
Corn, bu. - - - - -	62.4	62.3	66.2	65.6	59.2	63.6
Soybeans, bu. - - - - -	28.3	26.3	27.3	27.4	26.1	26.7
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 165	\$ 187	\$ 157	\$ 142	\$ 160	\$ 147
Hog returns per litter - - - -	67	61	105	83	72	73
Dairy returns per cow - - - -	75	146	62	61	90	88
<u>Expense Factors</u>						
Labor cost ^{2/}						
Per crop acre - - - - -	\$ 4.86	\$ 9.92	\$ 7.05	\$ 6.53	\$ 6.36	\$ 6.82
Per \$100 gross earnings - - -	16	22	21	18	20	20
Horse and machinery cost						
per crop acre ^{1/} - - - - -	4.33	7.57	5.28	4.65	4.75	5.41
Improvement cost per acre - -	.88	1.04	1.36	1.01	.99	1.23
Land tax per acre - - - - -	1.28	1.23	1.32	1.17	1.31	1.29

^{1/} Includes farm share of automobile.

^{2/} Includes owner's and family labor.

Larger crop yields per acre on the farms on higher-quality land, which amounted to 3.1 bushels of corn, .4 bushels of oats, 1.9 bushels of wheat, and 3.3 bushels of soybeans, indicate the relative productive level of the two groups of farms.

The operating expenses per acre averaged \$10.73 on the farms with the most tillable land and \$10.01 on the farms with the least tillable land. The combined cost per crop acre for labor, machinery, and horses was \$.52 smaller on the farms with the larger percent of tillable land, but the combined cost per acre for improvements and taxes was \$.21 larger.

The livestock-efficiency factors, such as poultry returns per hen, hog returns per litter of pigs farrowed, and dairy returns per cow milked, were not appreciably affected by the quality of land. These factors indicate that the two groups of farms were operated with about the same degree of efficiency. Therefore, it may be assumed that the differences in organization, land use, crop yields, and costs were principally due to the differences in the productivity of the land on the two groups of farms.

Source of Income

The 599 farms were divided into 6 groups according to source of income (Table 4). The items in this table, for the most part, were made to correspond with the items given in Table 3; therefore, a farmer may compare the data in the "Your farm" column in Table 3 with the "Source of income" column in Table 4, which corresponds to the classification for his own farm.

In a comparison of the groups of farms the fact that conditions affecting production and price relationships vary from year to year should be kept in mind. Therefore, the average differences in earnings in 1939 are not necessarily typical of the variations that may be expected over a long period of years. The following items, for example, indicate that generally the grain farms were located on the better land: high value of land per acre, large percent of land area tillable, large percent of land in grain, and high yield of corn per acre.

The returns per \$100 feed that are necessary to pay for feed (including pasture) and other costs, according to 5-year averages of complete cost studies (1933-1937), are as follows: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117. There is little wonder, therefore, that the 6 groups of accounting farms with different classes and proportions of livestock varied widely in their returns per \$100 worth of feed fed. The amount of feed fed per acre to productive livestock averaged \$14.27 on the cattle farms but only \$3.65 on the grain farms.

Differences in expenses are significant for the 6 groups of farms. Labor input was highest on the cattle farms, where 27.5 months of labor were used, and lowest on the grain and hog farms, where 21.1 months of labor were used. Horse and machinery cost per crop acre averaged \$7.57 on the dairy farms, \$5.28 on the hog farms, \$4.65 on the cattle farms, and only \$4.33 on the grain farms. Improvement cost per acre ranged from \$.88 on the grain farms to \$1.36 on the hog farms; and land taxes ranged from \$1.17 on the cattle farms to \$1.32 on the hog farms.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 4, 1939

Items	Total acres in farm					
	Less than 121	121 to 200	201 to 280	281 to 360	361 to 440	441 or more
Number of farms - - - - -	46	162	160	99	37	55
Acres per farm- - - - -	28	168	244	321	401	587
<u>Investments</u>						
Total per farm - - - - -	\$16302	\$26590	\$37832	\$49553	\$59859	\$82826
Total per acre - - - - -	167	158	155	154	149	141
Land per acre - - - - -	101	110	111	113	105	101
Improvements per acre - - - - -	28	17	16	14	15	14
Machinery per acre ^{1/} - - - - -	12.97	9.80	9.27	8.95	8.10	7.19
<u>Earnings</u>						
Per farm						
Gross earnings- - - - -	\$2,520	\$4,024	\$5,826	\$7,334	\$8,643	\$12,678
Gross expenses ^{2/} - - - - -	1,470	1,991	2,644	3,171	3,944	5,200
Net earnings - - - - -	1,050	2,033	3,182	4,163	4,699	7,478
Per acre						
Gross earnings- - - - -	\$25.82	\$23.95	\$23.90	\$22.86	\$21.56	\$21.60
Gross expenses ^{2/} - - - - -	15.06	11.85	10.85	9.88	9.84	8.86
Net earnings - - - - -	10.76	12.10	13.05	12.98	11.72	12.74
Rate earned on investment - - - - -	6.4%	7.6%	8.4%	8.4%	7.9%	9.0%
Labor and management earnings - - - - -	\$ 731	\$1,257	\$1,828	\$2,224	\$2,174	\$3,837
<u>Size and Intensity</u>						
Percent land area tillable- - - - -	91.0	91.5	91.0	91.7	88.0	90.1
Percent tillable land in grain- - - - -	66.3	69.4	70.1	69.4	68.3	67.0
Percent in hay and pasture- - - - -	28.5	23.1	22.5	22.2	23.8	24.6
Feed fed per acre to prod. L. S. - - - - -	\$ 9.05	\$ 6.00	\$ 5.19	\$ 5.24	\$ 6.72	\$ 5.88
Percent of income from prod. L. S. - - - - -	51.9	38.6	34.9	32.3	40.3	37.7
Percent of income from grain- - - - -	28.1	44.6	49.5	51.7	45.2	47.4
Months of labor per 100 crop acres- - - - -	19.0	13.2	11.4	10.0	10.0	8.6
Totals months of labor- - - - -	13.8	17.0	21.2	24.3	28.7	35.8
<u>Crop Yields Per Acre</u>						
Corn, bu. - - - - -	63.5	61.9	61.3	62.8	61.0	64.5
Soybeans, bu. - - - - -	23.3	28.0	27.8	29.0	29.1	26.9
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 164	\$ 170	\$ 175	\$ 153	\$ 137	\$ 144
Hog returns per litter- - - - -	63	72	76	78	71	71
Dairy returns per cow - - - - -	84	81	93	78	59	75
<u>Expense Factors</u>						
Labor cost per crop acre ^{2/} - - - - -	\$ 8.93	\$ 6.42	\$ 5.68	\$ 4.85	\$ 4.80	\$ 4.47
Labor cost per \$100 gross earnings- - - - -	26	20	18	16	16	15
Horse and machinery cost per crop A. ^{1/} - - - - -	5.69	4.75	4.76	4.30	4.89	3.97
Improvement cost per acre - - - - -	1.61	1.05	.91	.87	.92	.89
Land tax per acre - - - - -	1.28	1.32	1.27	1.26	1.22	1.28

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Size of Farm as Related to Earnings

The farm records in Farming-Type Area 4, when sorted according to the total acres in the farm, indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller farms. The operators on the larger farms took in more money during the year than did the operators on the smaller farms; and after deductions were made for farm business expenditures and interest on the investment, the 55 largest farms had labor and management earnings which averaged \$3,837 as contrasted with \$731 for the 46 smallest farms. The earnings, as measured by the rate earned on the investment, were 2.0 percent, and 6.4 percent, respectively for these two groups of farms. In years when the average rate earned on investment for groups of farms exceeds the capitalization rate (5 percent) the average labor and management earnings are higher on the larger farms than on the smaller ones, but these earnings are lower when the rate earned averages less than the capitalization rate.

The smaller farms were operated more intensively than were the larger farms. This variation was indicated by the higher gross earnings per acre and by the larger amount of feed fed per acre to productive livestock.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and the source of farm income (Tables 6 and 7).

In this report an average was calculated for each county from which 30 or more records were received. Averages were made in some instances with less than 30 records if it was necessary to eliminate some records because they were incomplete or not typical for the area. In any tabulation containing as few as 30 records, part of the variation from county to county is due to the fact that the averages do not represent a cross section of the county.

The tabulations by counties and by groups of counties may be used by extension specialists, farm advisers, and county program-building committees to represent the type of farm organization and the level of operating efficiency attained by a selected group of progressive farmers in the various parts of a farming-type area. Since the personnel of the accounting group changes slowly, comparisons may be made from county to county and from year to year even though these records are from farms with efficiency which is higher than average.

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TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 4, 1939

Items	Ford	Cham- paign	Ver- million	Iroquois	Kankakee
Number of farms - - - - -	60	48	43	41	38
Capital Investments					
Land - - - - -	\$32,495	\$30,720	\$29,981	\$27,145	\$24,119
Farm improvements - - - - -	3,861	3,920	5,134	4,777	4,746
Horses - - - - -	495	396	389	466	337
Productive livestock: Cattle - - - - -	1,127	901	1,396	1,312	1,390
Hogs - - - - -	335	329	474	350	180
Sheep - - - - -	175	45	346	207	9
Poultry - - - - -	107	93	89	119	101
Total productive livestock - - - - -	(1,814)	(1,368)	(2,305)	(1,988)	(1,680)
Feed and grain - - - - -	3,479	2,934	3,099	3,181	3,404
Machinery and equipment - - - - -	2,046	2,253	2,376	2,271	2,470
Automobile (farm share) - - - - -	202	229	214	208	231
Totals - - - - -	\$44,392	\$41,820	\$43,498	\$40,036	\$36,987
Receipts and Net Increases					
Horses - - - - -	\$ --	\$ --	\$ --	\$ --	\$ --
Productive livestock: Cattle - - - - -	768	491	976	788	712
Dairy sales - - - - -	232	346	405	413	667
Hogs - - - - -	539	553	853	633	312
Sheep - - - - -	53	35	128	85	6
Poultry - - - - -	69	73	59	73	105
Egg sales - - - - -	111	130	104	142	115
Total productive livestock - - - - -	(1,772)	(1,628)	(2,525)	(2,134)	(1,917)
Farm products used in household - - - - -	237	215	248	235	220
Feed and grain - - - - -	3,260	3,208	3,399	2,835	3,119
Labor off farm - - - - -	33	43	68	71	74
Miscellaneous - - - - -	11	9	9	5	9
AAA payments - - - - -	650	484	826	763	676
Totals - - - - -	\$ 5,963	\$ 5,587	\$ 7,075	\$ 6,043	\$ 6,015
Expenses and Net Decreases					
Farm improvements - - - - -	\$ 214	\$ 272	\$ 266	\$ 266	\$ 256
Horses - - - - -	25	11	19	21	31
Productive livestock - - - - -	--	--	--	--	--
Feed and grain - - - - -	--	--	--	--	--
Machinery and equipment - - - - -	590	654	758	616	658
Automobile (farm share) - - - - -	122	133	128	132	152
Hired labor - - - - -	342	321	555	414	387
Miscellaneous - - - - -	27	28	33	31	28
Crop expense - - - - -	161	128	198	155	213
Livestock expense - - - - -	51	42	54	57	58
Taxes - - - - -	342	370	514	374	276
Totals - - - - -	\$ 1,881	\$ 1,959	\$ 2,525	\$ 2,066	\$ 2,059
Receipts less expenses - - - - -	\$ 4,082	\$ 3,628	\$ 4,550	\$ 3,977	\$ 3,956
Family labor - - - - -	136	120	184	196	171
Returns for labor, capital, mgt. - - - - -	3,946	3,508	4,366	3,781	3,785
Operator's labor - - - - -	556	527	540	560	508
Returns for capital and mgt. - - - - -	3,390	2,981	3,826	3,221	3,277
Rate Earned on Investment - - - - -	7.6%	7.1%	8.8%	8.0%	8.9%
Interest on investment - - - - -	\$ 2,220	\$ 2,091	\$ 2,175	\$ 2,002	\$ 1,849
Labor and Management Earnings - - - - -	1,726	1,417	2,191	1,779	1,936
Nonfarm income	\$ 38	\$ 254	\$ 169	\$ 37	\$ 80

TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 4, 1939 (Cont.)

Menard	Macon	Sangamon	Will	Platt and Moultrie	Mason and Cass	Dewitt and Logan	Edgar Coles, & Douglas	Kendall
34	33	32	30	51	49	43	57	34
\$21,339	\$34,172	\$29,493	\$18,167	\$37,942	\$22,002	\$29,423	\$31,453	\$28,880
3,017	3,728	3,820	4,650	4,629	3,281	3,899	4,135	6,887
397	420	442	309	432	499	377	350	387
1,431	1,177	1,807	2,007	1,459	878	1,493	1,243	2,633
584	379	965	389	324	593	571	692	890
52	49	72	64	81	35	133	43	138
101	124	88	113	92	88	95	110	141
(2,168)	(1,729)	(2,932)	(2,573)	(1,956)	(1,594)	(2,292)	(2,088)	(3,802)
1,812	3,181	2,274	2,338	3,447	2,382	2,968	3,233	3,340
1,839	1,989	1,842	1,929	2,401	1,715	2,273	2,545	2,323
200	241	97	136	197	157	201	184	207
\$30,772	\$45,460	\$40,900	\$30,102	\$51,004	\$31,630	\$41,433	\$43,938	\$45,826
\$ --	--	--	--	--	--	--	--	--
1,040	753	1,225	773	896	613	975	1,020	1,867
201	325	341	973	447	170	347	197	673
1,200	641	1,643	543	654	856	844	1,320	1,454
40	27	55	12	50	33	55	32	140
85	46	31	53	76	59	48	94	67
137	152	83	194	96	144	161	145	279
(2,703)	(1,944)	(3,378)	(2,548)	(2,219)	(1,875)	(2,430)	(2,808)	(4,480)
257	218	244	223	235	259	241	222	250
1,461	3,722	1,855	1,440	4,443	2,613	2,841	2,681	1,253
24	35	56	47	46	56	31	62	29
15	12	11	3	8	4	15	24	8
481	901	710	475	681	852	682	631	809
\$ 4,941	\$ 6,832	\$ 6,254	\$ 4,736	\$ 7,632	\$ 5,659	\$ 6,240	\$ 6,428	\$ 6,829
\$ 209	\$ 227	\$ 310	\$ 214	\$ 337	\$ 186	\$ 259	\$ 261	\$ 457
6	32	11	15	18	10	15	30	20
--	--	--	--	--	--	--	--	--
609	684	742	544	843	483	757	672	692
111	128	68	104	115	105	105	103	138
357	374	623	353	597	385	372	517	556
25	28	30	31	35	26	28	30	52
109	126	120	148	166	147	120	177	223
67	47	82	54	62	43	48	71	97
320	437	362	214	453	344	373	397	329
\$ 1,813	\$ 2,083	\$ 2,348	\$ 1,677	\$ 2,626	\$ 1,729	\$ 2,077	\$ 2,258	\$ 2,564
\$ 3,128	\$ 4,749	\$ 3,906	\$ 3,059	\$ 5,006	\$ 3,930	\$ 4,163	\$ 4,170	\$ 4,265
240	194	125	165	132	197	174	139	105
2,888	4,555	3,781	2,894	4,874	3,733	3,989	4,031	4,160
541	549	442	551	517	548	531	513	551
2,347	4,006	3,339	2,343	4,357	3,185	3,458	3,518	3,609
7.6%	8.8%	8.2%	7.8%	8.5%	10.1%	8.3%	8.0%	7.9%
\$ 1,537	\$ 2,275	\$ 2,045	\$ 1,505	\$ 2,550	\$ 1,582	\$ 2,072	\$ 2,199	\$ 2,291
1,351	2,280	1,736	1,389	2,324	2,151	1,917	1,832	1,869
\$ 111	\$ 189	\$ 171	\$ 105	\$ 134	\$ 102	\$ 76	\$ 80	\$ 43

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 4, 1939

Items	Ford	Cham- paign	Ver- million	Iroquois	Kankakee
Rate earned on investment- - - - -	7.6%	7.1%	8.8%	8.0%	8.9%
Acres in farm- - - - -	264	231	303	254	266
Acres in crops - - - - -	201	179	225	184	207
Gross earnings per acre- - - - -	\$22.62	\$24.23	\$23.37	\$23.79	\$22.64
Total expenses per acre ^{2/} - - - - -	9.76	11.30	10.73	11.11	10.31
Net earnings per acre- - - - -	12.86	12.93	12.64	12.68	12.33
<u>Investments</u>					
Value of land per acre - - - - -	\$ 123	\$ 133	\$ 99	\$ 107	\$ 91
Value of improvements per acre - - -	15	17	17	19	18
Total investment per acre- - - - -	168	181	144	158	139
<u>Land Use</u>					
Percent of land area tillable- - - -	94.2	93.3	92.7	91.0	89.7
Percent of tillable land in:					
Corn - - - - -	38.4	34.7	32.1	35.4	36.3
Oats - - - - -	22.0	10.0	7.9	18.2	13.7
Wheat- - - - -	1.3	4.6	7.2	1.6	6.2
Soybeans - - - - -	8.7	22.5	20.1	10.6	17.2
Other crops- - - - -	5.9	7.5	7.8	7.7	7.1
Legume hay and pasture - - - - -	17.7	11.9	11.9	18.7	9.4
Nonlegume hay and pasture- - - - -	6.0	8.8	13.0	7.8	10.1
<u>Crop Yields</u>					
Corn - - - - -	60.7	62.9	61.8	63.6	55.5
Oats - - - - -	33.2	30.1	26.0	32.4	37.7
Wheat- - - - -	22.1	21.2	25.3	25.0	18.2
Soybeans - - - - -	27.6	30.1	26.8	25.4	21.0
<u>Livestock Factors</u>					
Value of feed fed to prod. L. S. - -	\$1,265	\$1,044	\$1,650	\$1,461	\$1,312
Feed fed per acre to prod. L. S. - -	4.80	4.53	5.45	5.75	4.94
Returns per acre from prod. L. S.- -	7.41	7.75	8.99	9.11	7.81
Returns per \$100 worth of feed fed -	154	171	165	158	158
Returns per \$100 invested in cattle- -	79	95	99	95	96
Poultry returns per hen - - - - -	2.18	2.59	2.84	2.36	3.05
Number of litters farrowed - - - - -	10.1	12.0	13.5	9.8	8.4
Number of pigs weaned per litter - -	6.0	5.5	6.1	6.2	6.2
Returns per litter farrowed- - - - -	\$ 68	\$ 64	\$ 77	\$ 72	\$ 67
Average number of cows milked- - - -	4.3	5.2	6.2	6.3	7.1
Dairy returns per cow milked - - - -	\$ 73	\$ 79	\$ 80	\$ 77	\$ 105
<u>Expense Factors</u>					
Machinery cost per crop acre ^{1/} - - -	\$ 3.54	\$ 4.41	\$ 3.94	\$ 4.06	\$ 3.91
Horses and machinery cost per crop A. ^{1/} - - - - -	4.11	4.88	4.49	4.79	4.52
Labor cost per crop acre ^{2/} - - - - -	4.98	5.18	5.49	6.18	4.96
Labor cost per \$100 gross earnings ^{2/} -	17	17	17	19	17
Number of work horses- - - - -	3.3	2.7	3.2	3.4	3.0
Value of feed fed to horses- - - - -	\$ 90	\$ 73	\$ 104	\$ 115	\$ 95
Improvement cost per acre- - - - -	.81	1.18	.88	1.05	.96
Taxes per acre - - - - -	1.32	1.60	1.70	1.47	1.04

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 4, 1939 (Cont.)

Menard	Macon	Sangamon	Will	Platt and Moultrie	Mason and Cass	DeWitt and Logan	Edgar, Coles, & Douglas	Kendall
7.6%	8.8%	8.2%	7.8%	8.5%	10.1%	8.3%	8.0%	7.9%
247	256	273	183	310	303	266	280	240
169	205	177	146	237	212	198	202	187
\$19.98	\$26.68	\$22.93	\$25.82	\$24.62	\$18.67	\$23.44	\$22.93	\$28.43
10.49	11.04	10.69	13.05	10.56	8.16	10.45	10.38	13.41
9.49	15.64	12.24	12.77	14.06	10.51	12.99	12.55	15.02
\$ 86	\$ 133	\$ 108	\$ 99	\$ 122	\$ 73	\$ 111	\$ 112	\$ 120
12	15	14	25	15	11	15	15	29
124	178	150	164	165	104	156	157	191
86.1	95.7	88.8	91.2	91.9	86.1	89.3	89.2	88.3
30.4	32.5	29.6	32.8	30.3	29.7	35.2	30.1	36.9
10.5	6.4	9.2	14.0	7.5	9.2	11.5	6.7	20.7
17.3	9.5	12.9	4.8	8.3	20.5	9.3	6.9	2.4
7.1	22.4	11.8	10.7	25.2	5.5	14.3	21.7	5.2
8.7	6.5	9.8	13.6	7.9	12.8	8.8	9.0	12.6
14.2	12.6	14.2	15.7	11.7	17.5	12.7	13.4	17.3
11.8	10.1	12.5	8.4	9.1	4.8	8.2	12.2	4.9
61.5	66.8	60.5	63.1	68.1	57.2	64.7	64.8	68.4
36.1	28.7	37.6	40.7	33.4	30.3	34.1	27.7	46.1
24.5	24.8	28.1	17.1	26.7	22.6	25.2	22.2	26.7
25.2	28.8	26.9	24.0	31.1	22.8	28.0	29.9	24.5
\$1,866	\$1,257	\$2,310	\$1,826	\$1,384	\$1,351	\$1,680	\$1,983	\$3,153
7.55	4.91	8.47	9.96	4.46	4.46	6.31	7.07	13.13
11.70	8.24	13.07	14.83	7.73	6.86	9.82	10.61	19.41
155	168	154	149	173	154	156	150	148
82	93	79	85	98	97	81	99	79
2.54	2.47	1.86	2.79	2.60	2.55	2.42	2.83	2.73
18.3	10.7	21.1	10.6	11.7	11.7	15.1	18.5	18.4
6.1	5.7	6.7	6.1	6.0	5.4	6.2	6.7	6.4
\$ 79	\$ 61	\$ 77	\$ 85	\$ 67	\$ 77	\$ 70	\$ 81	\$ 83
5.0	4.5	5.5	9.2	5.3	4.0	4.9	4.1	7.3
\$ 56	\$ 87	\$ 76	\$ 114	\$ 98	\$ 63	\$ 87	\$ 66	\$ 104
\$ 4.27	\$ 3.97	\$ 4.12	\$ 4.44	\$ 4.04	\$ 2.77	\$ 4.35	\$ 3.84	\$ 4.43
5.09	4.63	4.90	5.27	4.58	3.53	4.91	4.42	5.25
6.60	5.29	5.92	7.00	5.06	5.13	5.27	5.60	6.32
23	16	19	22	16	19	17	18	17
3.6	3.5	4.5	2.7	3.6	4.7	3.3	2.9	3.3
\$ 132	\$ 103	\$ 144	\$ 107	\$ 109	\$ 151	\$ 96	\$ 87	\$ 133
.85	.89	1.14	1.17	1.09	.61	.97	.93	1.90
1.29	1.71	1.33	1.17	1.46	1.13	1.40	1.42	1.37

Influence of Price Changes on Illinois Farm Incomes

All feed and grain, livestock, and other farm property on accounting farms must be valued at both the beginning and the end of the year. Prices at inventory time, therefore, have a marked influence on farm earnings. The influence is greatest where large stocks or supplies are on hand at inventory time; for example, a much larger supply of farm products was found on Illinois farms December 31, 1939, than a year earlier. In fact, grain and livestock inventories have been increasing on Illinois farms since the drouth of 1936 as a result of three years of exceptionally high crop yields and the influence of Agricultural Adjustment Programs which have caused farmers to grow more hay and pasture and to store corn on farms under seal. According to estimates made by the Bureau of Agricultural Economics, U.S.D.A., 356 million bushels of corn were on Illinois farms January 1, 1940, as compared with 325 million bushels January 1, 1939.

Livestock numbers on Illinois farms increased sharply in 1939 even though 62 million bushels of 1937 and 1938 corn were placed under seal at the end of the year and 83 million bushels of 1939 corn were sealed by March 31, 1940. The following data indicate the percentage increase in livestock numbers on 2520 accounting farms in Illinois from the beginning to the end of 1939: dairy cows, 2 percent; beef cows, 21 percent; feeder cattle, 17 percent; feeder lambs, 24 percent; brood sows, 4 percent; spring pigs, 38 percent; summer pigs, 23 percent; and fall pigs, 28 percent. Hog numbers have been increasing since 1935 and have now attained record levels; for example, 13.5 sows farrowed per farm on accounting farms in 1939 as contrasted with 9.9 sows farrowed per farm in 1938. The increase in beef cattle numbers is a part of the general up-swing taking place over the entire United States, and it may be expected to continue for several years.

These data indicate that supplies of both feed and livestock were greater at the time the 1939 closing inventory was taken than at any other inventory period in several years, and price changes, therefore, are important in interpreting farm earnings for the state and for farming-type areas in 1939.

Prices of important farm products.--Prices for all crops as well as for beef cattle and sheep were higher at the end of 1939 than they were at the beginning, whereas prices for horses, hogs, and poultry were lower. Most of these price increases occurred during the last four months of the year.

December 15, Illinois Farm Prices

	<u>1938</u>	<u>1939</u>	<u>Increase</u>	<u>Decrease</u>
Corn, bu.	\$.42	\$.47	\$.05	\$ --
Oats, bu.	.24	.35	.11	--
Wheat, bu.	.57	.88	.31	--
Soybeans, bu.	.65	.95	.30	--
Hay, tons	6.20	6.50	.30	--
Horses, hd.	88.00	85.00	--	3.00
Hogs, cwt.	7.00	5.10	--	1.90
Beef cattle, cwt.	7.70	8.30	.60	--
Sheep, cwt.	3.45	3.60	.15	--
Chickens, lb.	.13	.11	--	.02

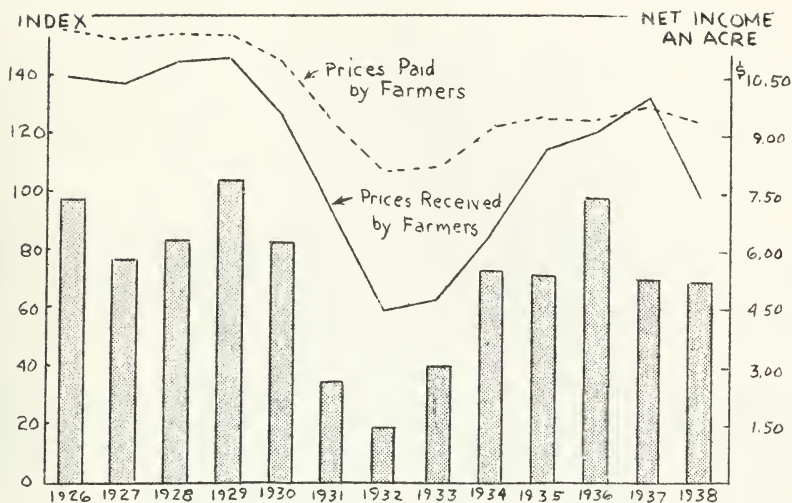


Fig. 1.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1938.

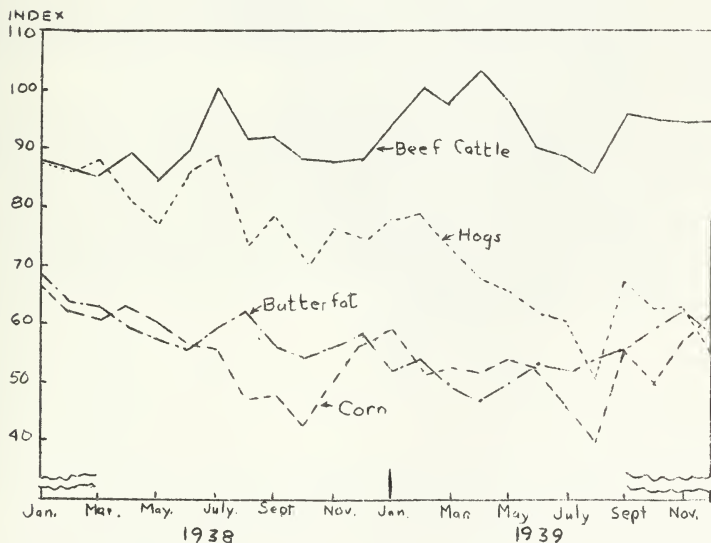


Fig. 2.--Monthly price indices of the average farm prices of corn, hogs, beef cattle, and butterfat, 1938 and 1939. (1924-1929 = 100)

Farm earnings are influenced by the average price received for farm products during the year as well as by the values at inventory time. Although nearly all commodities were higher in price at the end of the year than at the beginning, prices received for the following commodities averaged lower in 1939 than in 1938 by these amounts: corn, 2 cents per bushel; wheat and soybeans, 1 cent per bushel; hogs, \$1.50 per hundred; butterfat, 2 cents per pound; eggs, 3 cents per dozen; and chickens, 2 cents per pound. The prices for other commodities averaged higher in 1939 than in 1938 by the following amounts: oats, 4 cents per bushel; beef cattle, 50 cents per hundred; lambs, 42 cents per hundred; wool, 4 cents per pound; and apples, 12 cents per bushel.

Variation in earnings between the various type-of-farming areas is influenced by the relative prices of grains, livestock, and livestock products. In 1939 as in 1938 livestock had a price advantage over grain, but the advantage was not as marked as it was in 1938. The prices for meat animals dropped from 116 to 110 percent of the 1910-14 average, grains from 74 to 72 percent, chickens and eggs from 106 to 94 percent, and dairy products from 106 to 104 percent.

The corn-hog ratio also narrowed during the year to the disadvantage of the hog enterprise. The amount of corn equal in value to 100 pounds of hogs dropped from 19 bushels in February to 11 bushels in December (based on farm prices). Unfavorable feeding ratios will discourage expansion in hog numbers in 1940.

Crop Yields in Illinois, 1939

Crop yields in Illinois in 1939, as in 1938 and 1937, were unusually high. The weighted average yield of corn, oats, wheat, and soybeans was 133 percent of the 10-year average, 1929-1938. Corn contributed more than did any other crop to the high average yields. The yields of the various crops expressed in percentages of the 1929-1938 averages were: corn, 150; soybeans, 129; wheat, 121; and oats, 97.

Crop yields in all counties except Massac were above the 10-year average (1929-1938 = 100), but wide variations in yields occurred between individual counties and groups of counties. Four counties along the Ohio River had crop-yield indices under 105. In contrast to these counties, 31 were over 136. Many of the counties with the highest yields were in two groups, those located in southwestern and east north central Illinois. Crop-yield indices were adversely affected in southeastern Illinois by the wheat crop and in northern Illinois by low oat yields. Fifty-five counties, which were well-distributed over the state, had crop-yield indices from 121 to 135.

136 - 150
121 - 135
106 - 120
91 - 105

Fig. 3.--Crop yields for 1939, compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1939



FARMING-TYPE AREA FIVE West Central General Farming Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON THREE HUNDRED FIFTEEN FARMS IN FARMING-TYPE AREA 5, 1939

By P. E. Johnston, J. B. Cunningham, and E. M. Hughes^{1/}

Farm earnings of accounting farms in Farming-Type Area 5 were higher in 1939 than in 1938. The net earnings per acre averaged \$9.77 in 1939, \$7.93 in 1938, \$8.21 in 1937, and \$7.72 in 1936. The items considered in calculating the net earnings included inventory changes, cash receipts, cash expenses, the value of the farm products used in the household (in 1938 and 1939 only), and unpaid family labor (Table 1).



Farming-Type Area 5
General Farming

Since the value of farm products used in the household was not included in the records prior to 1938, the earnings for 1938 and 1939 are not strictly comparable to those for other years. The value per acre of farm products used was \$1.15 in 1938 and \$.98 in 1939.

The accounting farms were larger than average, crop yields were above average, and the farms as a whole were operated with efficiency which was greater than average. Therefore, the figures contained in this report represent conditions which are better than average for this area. This fact is borne out by survey records taken in various areas of the state.

High crop yields and more livestock, accompanied by increased industrial activity and improved demand for farm products especially during the latter half of the year, were the principal factors producing higher earnings in 1939 (Figs. 1, 2, and 3).

^{1/} R. J. Mutti supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm accounts project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the farm advisers indicated:

W. F. Coolidge, Morgan County
W. S. Batson, Shelby County
G. B. Whitman, Adams County
O. O. Mowery, Macoupin County
C. S. Love, Christian County
W. F. Purnell, Greene County

A. E. Snyder, Montgomery County
C. T. Kibler, Jersey County
R. T. Nicholas, Schuyler County
W. B. Bunn, Pike County
G. H. Reid, Scott County
E. H. Garlich, Brown County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 5, 1936-1939

Items	Your farm	Average of all farms in area			
		1939	1938	1937	1936
Number of farms- - - - -	--	315	318	284	316
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$ _____	\$ 99	\$ 69	\$ 41	\$ 4
Livestock- - - - -	_____	298	219	11	75
Feed and grain - - - - -	_____	590	67	524	336
Machinery and equipment ^{1/} - - - - -	_____	110	158	281	272
Automobile (farm share)- - - - -	_____	11	4	--	--
Totals - - - - -	\$ _____	\$1,108	\$ 517	\$ 357	\$ 687
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$ _____	\$ 12	\$ 3	\$ 2	\$ 5
Horses - - - - -	_____	53	59	68	86
Productive livestock: Cattle - - - - -	_____	1,668	1,144	1,453	1,069
Dairy sales- - - - -	_____	432	466	473	360
Hogs - - - - -	_____	1,482	1,488	1,748	1,563
Sheep- - - - -	_____	115	90	114	95
Poultry- - - - -	_____	95	85	94	90
Egg sales- - - - -	_____	115	136	130	121
Total productive livestock - - - - -	()	(3,907)	(3,409)	(4,012)	(3,298)
Feed and grain - - - - -	_____	1,387	1,167	1,410	1,383
Machinery and equipment ^{1/} - - - - -	_____	265	256	322	283
Automobile (farm share)- - - - -	_____	46	34	--	--
Labor off farm - - - - -	_____	52	58	90	92
Miscellaneous- - - - -	_____	18	8	6	7
AAA payments - - - - -	_____	454	171	165	246
Totals - - - - -	\$ _____	\$6,194	\$5,165	\$6,075	\$5,400
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$ _____	\$ 320	\$ 261	\$ 214	\$ 187
Horses - - - - -	_____	30	38	45	61
Productive livestock: Cattle - - - - -	_____	976	565	624	405
Hogs - - - - -	_____	213	130	136	137
Sheep- - - - -	_____	57	34	41	21
Poultry- - - - -	_____	24	23	18	22
Total productive livestock - - - - -	()	(1,270)	(752)	(819)	(585)
Feed and grain - - - - -	_____	688	524	1,121	847
Machinery and equipment ^{1/} - - - - -	_____	872	813	996	920
Automobile (farm share) - - - - -	_____	161	131	--	--
Hired labor- - - - -	_____	379	318	351	260
Miscellaneous- - - - -	_____	33	25	28	27
Crop expense - - - - -	_____	133	118	283	210
Livestock expense- - - - -	_____	61	52	45	30
Taxes- - - - -	_____	289	256	256	245
Totals - - - - -	\$ _____	\$4,236	\$3,288	\$4,158	\$3,372
<u>Summary</u>					
Cash balance - - - - -	\$ _____	\$1,958	\$1,877	\$1,917	\$2,028
Farm products used in household ^{2/} - - - - -	_____	256	279	--	--
Total inventory change - - - - -	_____	1,108	517	857	687
Receipts less expenses - - - - -	_____	3,322	2,673	2,774	2,715
Total unpaid labor - - - - -	_____	769	755	761	778
Net earnings per farm- - - - -	\$ _____	\$2,553	\$1,918	\$2,013	\$1,937
Net earnings per acre- - - - -	\$ _____	\$ 9.77	\$ 7.93	\$ 8.21	\$ 7.72

^{1/} Includes farm share of automobile for 1936 and 1937.

^{2/} Not included as income for 1936 and 1937.

Inventory Changes, Cash Receipts, Cash Expenses, and Earnings

Inventory changes.--The year 1939 was the fourth consecutive year of increasing inventories, the increases averaging \$1,108 in 1939, \$517 in 1938, \$857 in 1937, and \$687 in 1936 (Table 1). The largest increases in 1939 were in feed and grain and in livestock. The increased value of feed and grain represented higher prices at the end of the year as well as larger quantities of grain on hand (Page 1 and Fig. 2). The average amounts of grain on hand in Area 5 at the two inventory periods follow:

	Beginning of year (bushels)	End of year (bushels)
Corn	2,609	3,033
Oats	436	353
Wheat	122	220
Soybeans	104	130

Cash receipts. Cash receipts reached the highest level in four years, averaging \$6,194 in 1939 (Table 1). Total productive livestock, grain, and AAA payments were larger in 1939 than in 1938. The larger AAA receipts were mainly due to a doubling-up in payments, many farmers receiving payments in 1939 for participation in both the 1938 and 1939 programs.

Cash expenses. Cash expenses were also larger in 1939 than in any of the last four years. Every cash expense item, except horses, was larger in 1939 than in 1938. The largest increase in expenditures was for cattle, the purchases averaging \$976 in 1939 and \$565 in 1938.

Earnings. Cash receipts exceeded cash expenses by \$1,958 in 1939. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The amounts deducted for operator's and family labor remained rather uniform during the 4-year period, a difference of only \$23, occurring between the low year, 1938, and the high year, 1936. The uniformity in valuation was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$50 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$2,553 in 1939 as contrasted with \$1,918 for 1938. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

TABLE 2.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 5, 1939

Items	Your farm	Average of all farms	Land area tillable	
			85 percent or more	Less than 85 percent
Number of farms - - - - -	--	315	156	159
<u>Capital Investments</u>				
Land- - - - -	\$	\$18,253	\$21,134	\$15,427
Farm improvements - - - - -		3,453	3,392	3,513
Horses - - - - -		407	406	3,408
Productive livestock: Cattle- - - - -		1,490	1,402	1,576
Hogs- - - - -		629	620	637
Sheep - - - - -		91	58	123
Poultry - - - - -		102	110	94
<u>Total productive livestock- - - - -</u>	()	(2,312)	(2,190)	(2,430)
Feed and grain - - - - -		1,998	2,202	1,798
Machinery and equipment - - - - -		1,775	1,958	1,596
Automobile (farm share) - - - - -		173	194	153
Totals- - - - -	\$	\$28,371	\$31,476	\$25,325
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$	\$ --	\$ --	\$ --
Productive livestock: Cattle- - - - -		1,021	992	1,050
Dairy sales - - - - -		432	432	433
Hogs- - - - -		1,260	1,185	1,333
Sheep - - - - -		77	68	86
Poultry - - - - -		63	78	49
Egg sales - - - - -		115	122	108
<u>Total productive livestock- - - - -</u>	()	(2,968)	(2,877)	(3,059)
Farm products used in household - - - - -		256	253	259
Feed and grain - - - - -		1,289	1,845	744
Labor off farm - - - - -		52	56	49
Miscellaneous - - - - -		18	20	15
AAA payments - - - - -		454	465	443
Totals- - - - -	\$	\$ 5,037	\$ 5,516	\$ 4,569
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$	\$ 209	\$ 213	\$ 205
Horses - - - - -		10	11	10
Productive livestock- - - - -		--	--	--
Feed and grain- - - - -		--	--	--
Machinery and equipment - - - - -		497	566	430
Automobile (farm share) - - - - -		104	113	95
Hired labor - - - - -		379	393	365
Miscellaneous - - - - -		33	31	36
Crop expense- - - - -		133	139	127
Livestock expense - - - - -		61	58	64
Taxes - - - - -		289	320	259
Totals- - - - -	\$	\$ 1,715	\$ 1,844	\$ 1,591
Receipts less expenses- - - - -	\$	\$ 3,322	\$ 3,672	\$ 2,978
Family labor- - - - -		245	233	256
Returns for labor, capital, mgt. - - - - -		3,077	3,439	2,722
Operator's labor- - - - -		524	543	505
Returns for capital and mgt. - - - - -		2,553	2,896	2,217
<u>Rate Earned on Investment - - - - -</u>	%	9.0%	9.2%	8.8%
Interest on investment- - - - -	\$	\$ 1,418	\$ 1,573	\$ 1,266
<u>Labor and Management Earnings - - - - -</u>		1,659	1,866	1,456
Nonfarm income- - - - -	\$	\$ 113	\$ 99	\$ 126

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 5; for example, 26 farms earned less than 3 percent on the investment, with an average rate earned of 1.1 percent; but in contrast, 25 farms earned 15 percent or more, with an average rate earned of 17.9 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$310 for labor and management earnings as contrasted with a gain of \$4,152 for the latter group. By studying the reasons for these variations, farm operators can improve their chances of financial success. The variation in earnings and in size of farm for all records in the areas was as follows:

Rate earned on investment (percent)	Number of farms	Average rate earned (percent)	Acres per farm	Capital in- vested per farm	Gross earnings per farm	Net earnings per farm	Labor and management earnings
Less than 3.0	26	1.1	236	\$21,179	\$2,916	\$ 236	\$ -310
3.0 to 6.9	74	5.4	265	29,293	4,250	1,570	627
7.0 to 10.9	121	8.8	266	30,391	5,307	2,679	1,683
11.0 to 14.9	69	12.6	252	26,533	5,923	3,347	2,561
15.0 or more	25	17.9	280	28,414	8,300	5,073	4,152

Comparison of Farms According to Quality of Land

The 315 farms were divided into two groups according to the percent of land area tillable. Of this total number of farms, 156 had 85 percent or more of land area tillable, and 159 had less than 85 percent tillable. The average percent tillable was 93.7 for the former group and 65.7 for the latter group.

This grouping of farms gives each farmer an opportunity to compare his farm with the average of other farms having a similar quality of land as well as with the average of all accounting farms (Tables 2 and 3).

The total capital investment averaged \$31,476 per farm, or \$130 per acre, for the group of farms having the larger percent of land area tillable, as compared with a capital investment averaging \$25,325, or \$90 per acre, for the group of farms having the smaller percent of land area tillable.

The receipts and net increases were \$947 larger, and expenses and net decreases \$253 larger, on farms of higher quality land than on those of lower quality land. The livestock receipts were \$182 smaller for the farms with the larger percent of land area tillable, whereas the grain receipts were \$1,101 larger. The rate earned on investment was 9.2 percent and 8.8 percent and the labor and management earnings \$1,866 and \$1,456, respectively, for the two groups of farms.

The farms of higher quality land were 38 acres smaller than those on lower quality land; yet the former has 34 acres more land in crops. They also had a larger percent of tillable land in soybeans and in hay and pasture but a smaller percent in other crops. The amount of livestock per farm was practically the same for the two groups of farms as indicated by the value of feed fed to productive livestock (Table 3).

TABLE 3.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 5, 1939

Items	Your farm	Average of all farms	Land area tillable	
			85 percent or more	Less than 85 percent
Rate earned on investment- - - - -	_____ %	9.0%	9.2%	8.8%
Acres in farm- - - - -	_____	261	242	280
Acres in crops - - - - -	_____	159	176	142
Gross earnings per acre- - - - -	\$ _____	\$ 19.27	\$ 22.79	\$ 16.29
Total expenses per acre ^{2/} - - - - -	_____	9.50	10.82	8.39
Net earnings per acre - - - - -	_____	9.77	11.97	7.90
Investments				
Value of land per acre - - - - -	\$ _____	\$ 70	\$ 87	\$ 55
Value of improvements per acre - - - - -	_____	13	14	13
Total investment per acre - - - - -	_____	109	130	90
Land Use				
Percent of land area tillable- - - - -	_____	78.6	93.7	65.7
Percent of tillable land in:				
Corn - - - - -	_____	28.4	28.5	28.2
Oats - - - - -	_____	8.5	8.0	9.0
Wheat- - - - -	_____	14.2	14.4	14.0
Soybeans - - - - -	_____	9.4	13.0	5.1
Other crops- - - - -	_____	9.9	8.3	11.8
Legume hay and pasture - - - - -	_____	17.6	15.1	20.7
Nonlegume hay and pasture- - - - -	_____	12.0	12.7	11.2
Crop Yields				
Corn - - - - -	_____	61.5	62.2	60.8
Oats - - - - -	_____	32.5	34.1	31.0
Wheat- - - - -	_____	24.7	25.9	23.3
Soybeans - - - - -	_____	26.7	28.0	23.2
Livestock Factors				
Value of feed fed to prod. L. S. - - -	\$ _____	\$ 1,958	\$ 1,944	\$ 1,971
Feed fed per acre to prod. L. S. - - -	_____	7.49	8.03	7.03
Returns per acre from prod. L. S. - - -	_____	12.07	12.67	11.56
Returns per \$100 worth of feed fed - - -	_____	161	158	164
Returns per \$100 invested in cattle- - -	_____	93	96	91
Poultry returns per hen- - - - -	_____	2.24	2.23	2.24
Number of litters farrowed - - - - -	_____	19.0	16.7	21.2
Number of pigs weaned per litter - - -	_____	6.2	6.2	6.1
Returns per litter farrowed- - - - -	\$ _____	\$ 78	\$ 80	\$ 76
Average number of cows milked- - - - -	_____	6.1	6.0	6.2
Dairy returns per cow milked - - - - -	\$ _____	\$ 80	\$ 79	\$ 82
Expense Factors				
Machinery cost per crop acre ^{1/} - - -	\$ _____	\$ 3.79	\$ 3.87	\$ 3.70
Horse and machinery cost per crop A. - - -	_____	4.55	4.52	4.60
Labor cost per crop acre ^{2/} - - - - -	_____	7.08	6.49	7.59
Labor cost per \$100 gross earnings ^{2/} - - -	_____	22	21	24
Number of work horses- - - - -	_____	3.8	3.7	3.8
Value of feed fed to horses- - - - -	_____	\$ 111	\$ 104	\$ 118
Improvement cost per acre- - - - -	_____	.80	.88	.73
Taxes per acre - - - - -	_____	1.11	1.32	.92

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS,
FARMS WITH LESS THAN 85 PERCENT OF THE LAND AREA TILLABLE

Accounting Farms in Farming-Type Area 5, 1939

The numbers above the lines across the middle of the page are the averages for the 159 farms included in this group for the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings									Total expense per acre	Factors that affect expenses		
			Percent tillable land in legume hay and pasture	Crop yields			Feed fed per acre to prod. L. S.	Returns per \$100 feed fed	Poultry returns per hen	Hog returns per litter farrowed	Dairy returns per cow milked		Horse and machinery cost per crop acre	Labor cost per crop acre	Labor cost per \$100 gross earnings
				Corn, bu.	Oats, bu.	Wheat, bu.									
19	480	31	36	86	51	33	17	264	3.50	126	132	3.40	.85	2.60	9
17	440	28	33	81	47	31	15	244	3.25	114	122	4.40	1.60	3.60	12
15	400	25	30	76	43	29	13	224	3.00	106	112	5.40	2.35	4.60	15
13	360	22	27	71	39	27	11	204	2.75	96	102	6.40	3.10	5.60	18
11	320	19	24	66	35	25	9	184	2.50	86	92	7.40	3.85	6.60	21
8.8	280	16.29	20.7	60.8	31.0	23.3	7.03	164	2.24	76	82	8.39	4.60	7.59	24
7	240	13	18	56	27	21	5	144	2.00	66	72	9.40	5.35	8.60	27
5	200	10	15	51	23	19	3	124	1.75	56	62	10.40	6.10	9.60	30
3	160	7	12	46	19	17	1	104	1.50	46	52	11.40	6.85	10.60	33
1	120	4	9	41	15	15	--	84	1.25	36	42	12.40	7.60	11.60	36
-1	80	1	6	36	11	13	---	64	1.00	26	32	13.40	8.35	12.60	39

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 5, 1939

Items	Source of income					
	Grain 40%+	Dairy sales 40%+	Hogs 40%+	Cattle 40%+	General L.S. 60%+	farms L.S. 60%+
Number of farms - - - - -	87	17	47	23	92	47
Percent income from prod. L.S.- -	30.5	86.3	80.7	88.5	50.4	77.8
Percent income from crops - - - -	56.2	--	3.6	--	30.2	6.7
<u>Investments</u>						
Total per farm- - - - -	\$31,641	\$17,672	\$27,391	\$41,891	\$24,974	\$28,410
Total per acre- - - - -	111	98	115	111	103	109
Land per acre - - - - -	78	51	73	65	66	66
Improvements per acre - - - - -	11	18	15	13	13	15
Machinery per acre ^{1/} - - - - -	7.89	7.27	8.04	6.76	7.10	7.23
<u>Earnings</u>						
Per farm						
Gross earnings- - - - -	\$ 5,575	\$ 4,477	\$ 4,419	\$ 7,728	\$ 4,523	\$ 5,109
Gross expenses ^{2/} - - - - -	2,720	2,633	2,294	3,706	2,211	2,567
Net earnings- - - - -	2,855	1,844	2,125	4,022	2,312	2,542
Per acre						
Gross earnings- - - - -	\$ 19.51	\$ 24.82	\$ 18.61	\$ 20.46	\$ 18.66	\$ 19.60
Gross expenses ^{2/} - - - - -	9.52	14.60	9.66	9.81	9.12	9.85
Net earnings- - - - -	9.99	10.22	8.95	10.65	9.54	9.75
Rate earned on investment - - -	9.0%	10.4%	7.8%	9.6%	9.3%	8.9%
Labor and mgt. earnings - - - -	\$ 1,789	\$ 1,468	\$ 1,271	\$ 2,462	\$ 1,613	\$ 1,640
<u>Size and Intensity</u>						
Acres per farm - - - - -	286	180	238	378	242	261
Percent land area tillable- - -	84.5	66.1	73.9	72.7	80.6	74.3
Percent tillable land in grain- -	69.0	47.5	61.4	60.3	59.1	58.0
Percent in hay and pasture- - -	21.9	48.5	29.7	31.0	32.4	36.5
Feed fed per acre to prod. L.S. \$	4.25	10.65	10.14	12.58	6.16	9.67
Months of labor per 100 crop A.	11.4	32.2	16.8	13.8	14.8	16.5
Total months of labor - - - - -	22.7	26.0	22.2	28.3	22.1	23.2
<u>Crop Yields Per Acre</u>						
Corn, bu. - - - - -	60.8	60.5	62.8	66.4	59.7	62.7
Wheat, bu.- - - - -	26.0	24.1	24.6	20.4	24.5	25.0
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 155	\$ 209	\$ 155	\$ 148	\$ 166	\$ 166
Hog returns per litter- - - - -	66	90	82	79	74	75
Dairy returns per cow - - - - -	72	126	48	67	76	81
<u>Expense Factors</u>						
Labor cost ^{2/}						
Per crop acre - - - - -	\$ 5.61	\$ 15.10	\$ 8.14	\$ 6.74	\$ 6.76	\$ 7.88
Per \$100 gross earnings - - -	20	27	24	18	22	22
Horse and machinery cost per crop acre ^{1/} - - - - -	4.37	7.02	4.55	4.81	4.09	5.37
Improvement cost per acre - - -	.70	.96	.78	.88	.76	.99
Land tax per acre - - - - -	1.12	.69	.92	.87	.93	.95

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Larger crop yields per acre on the farms on higher quality land, which amounted to 1.4 bushels of corn, 3.1 bushels of oats, 2.6 bushels of wheat, and 4.8 bushels of soybeans, indicate the relative productive level of the two groups of farms.

The operating expenses per acre averaged \$10.82 on the farms with the most tillable land and \$8.39 on the farms with the least tillable land. The combined cost per crop acre for labor, machinery, and horses was \$1.18 smaller on the farms with the larger percent of tillable land, but the combined cost per acre for improvements and taxes was \$.55 larger.

The livestock-efficiency factors, such as poultry returns per hen, hog returns per litter of pigs farrowed, and dairy returns per cow milked, were not appreciably affected by the quality of land. These factors indicate that the two groups of farms were operated with about the same degree of efficiency. Therefore, it may be assumed that the differences in organization, land use, crop yields, and costs were principally due to the differences in the productivity of the land on the two groups of farms.

Source of Income

The 315 farms were divided into 6 groups according to source of income (Table 4). The items in this table, for the most part, were made to correspond with the items given in Table 3; therefore, a farmer may compare the data in the "Your farm" column of Table 3 with the "Source of income" column in Table 4, which corresponds to the classification for his own farm.

In a comparison of the groups of farms, the fact that conditions affecting production and price relationships vary from year to year should be kept in mind. Therefore, the average differences in earnings in 1939 are not necessarily typical of the variations that may be expected over a long period of years. The following items, for example, indicate that generally the grain farms were located on the better land: high value of land per acre, large percent of land area tillable, large percent of land in grain, and high taxes per acre.

According to 5-year averages (1933-1937) of complete cost studies the returns per \$100 feed that are necessary to pay for feed (including pasture) and other costs, are as follows: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117. There is little wonder, therefore, that the six groups of accounting farms with different classes and proportions of livestock varied widely in their returns per \$100 worth of feed fed. The amount of feed fed per acre to productive livestock averaged \$12.58 on the cattle farms but only \$4.25 on the grain farms.

Differences in expenses are significant for the six groups of farms. Labor input was highest on the cattle farms, where 28.3 months of labor were used, and lowest on the general farms with least livestock, where 22.1 months of labor were used. Horse and machinery cost per crop acre averaged \$7.02 on the dairy farms, \$4.81 on the cattle farms, \$4.55 on the hog farms, and only \$4.37 on the grain farms. Improvement costs per acre ranged from \$.70 on the grain farms to \$.99 on the general livestock farms. Taxes ranged from \$.69 on the dairy farms to \$1.12 on the grain farms.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 5, 1939

Items	Total acres in farm					
	41 to 120	121 to 200	201 to 280	281 to 360	361 to 440	441 or more
Number of farms - - - - -	27	110	83	39	18	38
Acres per farm- - - - -	105	168	241	315	391	568
<u>Investments</u>						
Total per farm- - - - -	\$12899	\$19006	\$26203	\$38873	\$31326	\$59032
Total per acre- - - - -	123	113	109	123	80	104
Land per acre - - - - -	73	71	69	82	50	69
Improvements per acre - - - - -	17	15	14	12	11	12
Machinery per acre ^{1/} - - - - -	10.28	8.48	7.39	8.48	6.35	6.04
<u>Earnings</u>						
Per farm						
Gross earnings- - - - -	\$2,499	\$3,401	\$4,926	\$6,856	\$5,482	\$9,754
Gross expenses ^{2/} - - - - -	1,446	1,877	2,296	2,950	2,750	4,795
Net earnings- - - - -	1,053	1,524	2,630	3,906	2,732	4,959
Per acre						
Gross earnings- - - - -	\$23.80	\$20.18	\$20.41	\$21.74	\$14.01	\$17.17
Gross expenses ^{2/} - - - - -	13.77	11.14	9.51	9.35	7.03	8.44
Net earnings- - - - -	10.03	9.04	10.90	12.39	6.98	8.73
Rate earned on investment - - - - -	8.2%	8.0%	10.0%	10.0%	8.7%	8.4%
Labor and management earnings - - - - -	\$ 925	\$1,114	\$1,833	\$2,488	\$1,711	\$2,498
<u>Size and Intensity</u>						
Percent land area tillable- - - - -	87.8	81.6	79.2	82.5	71.6	74.2
Percent tillable land in grain- - - - -	60.7	60.1	61.7	67.6	59.0	62.4
Percent in hay and pasture- - - - -	33.8	33.0	31.1	26.2	27.0	27.2
Feed fed per acre to prod. L. S.- - - - -	\$ 9.09	\$ 7.58	\$ 7.84	\$ 8.22	\$ 5.84	\$ 7.00
Percent of income from prod. L. S.- - - - -	61.7	61.0	60.1	55.0	61.0	57.3
Percent of income from grain- - - - -	18.3	21.2	24.5	30.9	21.6	29.7
Months of labor per 100 crop acres- - - - -	21.9	18.3	14.7	11.8	13.2	11.7
Total months of labor - - - - -	15.6	19.3	21.8	25.0	29.2	36.9
<u>Crop Yields Per Acre</u>						
Corn, bu. - - - - -	59.5	60.1	62.0	66.4	55.5	61.0
Wheat, bu.- - - - -	23.5	24.9	25.9	26.5	20.9	23.8
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 178	\$ 175	\$ 167	\$ 154	\$ 157	\$ 145
Hog returns per litter- - - - -	72	71	83	79	78	73
Dairy returns per cow - - - - -	77	79	81	89	68	88
<u>Expense Factors</u>						
Labor cost per crop acre ^{2/} - - - - -	\$10.59	\$ 8.82	\$ 7.00	\$ 5.77	\$ 5.94	\$ 5.48
Labor cost per \$100 gross earnings- - - - -	30	27	21	18	24	18
Horse and machinery cost per crop A. ^{1/} - - - - -	4.73	4.69	4.81	4.19	3.24	4.85
Improvement cost per acre - - - - -	1.20	.90	.75	.81	.59	.78
Land tax per acre - - - - -	1.13	.97	.96	1.01	.65	1.07

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Size of Farm As Related to Earnings

The farm records in Farming-Type Area 5, when sorted according to the total acres in the farm, indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller farms. The operators on the larger farms took in more money during the year than did the operators on the smaller farms; and after deductions were made for farm business expenditures and interest on the investment, the 38 largest farms had labor and management earnings which averaged \$2,498 as contrasted with \$925 for the 27 smallest farms. The earnings, as measured by the rate earned on the investment, averaged slightly higher, however, for the middle-sized farms than for either the largest or the smallest farms. In years when the average rate earned on investment for groups of farms exceeds the capitalization rate (5 percent), the average labor and management earnings are higher on the larger farms than on the smaller ones, but these earnings are lower when the rate earned averages less than the capitalization rate.

The smaller farms were operated more intensively than were the larger farms. This variation was indicated by the much higher gross earnings per acre, by the larger proportion of total land tillable, by the higher investments per acre, by the larger amount of feed fed per acre to productive livestock, and by the larger amount of labor used per 100 crop acres.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and the source of farm income (Tables 6 and 7).

In this report an average was calculated for each county from which 30 or more records were received. Averages were made in some instances with less than 30 records if it was necessary to eliminate some records because they were incomplete or not typical for the area. In any tabulation containing as few as 30 records, part of the variation from county to county is due to the fact that the averages do not represent a cross section of the county.

The tabulations by counties and by groups of counties may be used by extension specialists, farm advisers, and county program-building committees to represent the type of farm organization and the level of operating efficiency attained by a selected group of progressive farmers in the various parts of a farming-type area. Since the personnel of the accounting group changes slowly, comparisons may be made from county to county and from year to year, even though these records are from farms with efficiency which is higher than average.

TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 5, 1939

Items	Morgan	Shelby	Adams	Macoupin	Christian
Number of farms - - - - -	38	38	37	35	31
<u>Capital Investments</u>					
Land - - - - -	\$26,483	\$16,400	\$12,812	\$14,148	\$24,195
Farm improvements - - - - -	3,339	2,494	3,448	4,087	3,817
Horses - - - - -	374	343	423	388	369
Productive livestock: Cattle - -	1,462	841	1,160	1,821	1,314
Hogs - - -	695	229	651	466	708
Sheep - - -	90	109	96	156	61
Poultry - -	96	125	83	169	113
Total productive livestock - - -	(2,343)	(1,304)	(1,990)	(2,612)	(2,196)
Feed and grain - - - - -	2,238	1,896	1,592	2,016	2,277
Machinery and equipment - - - -	2,111	1,564	1,422	2,024	2,079
Automobile (farm share) - - - -	189	164	177	160	199
Totals - - - - -	\$37,077	\$24,165	\$21,864	\$25,435	\$35,132
<u>Receipts and Net Increases</u>					
Horses - - - - -	\$ 2	\$ --	\$ --	\$ --	\$ --
Productive livestock: Cattle - - -	1,002	484	773	1,182	1,051
Dairy sales	417	497	256	994	226
Hogs - - -	1,495	488	1,200	902	1,345
Sheep - - -	125	91	60	118	64
Poultry - -	64	63	52	182	51
Egg sales -	112	171	88	194	119
Total productive livestock - - -	(3,215)	(1,794)	(2,429)	(3,572)	(2,856)
Farm products used in household -	252	239	259	279	266
Feed and grain - - - - -	1,973	1,972	704	873	2,089
Labor off farm - - - - -	49	56	64	65	45
Miscellaneous - - - - -	12	15	18	21	20
AAA payments - - - - -	551	333	359	500	409
Totals - - - - -	\$ 6,054	\$ 4,409	\$ 3,833	\$ 5,310	\$ 5,685
<u>Expenses and Net Decreases</u>					
Farm improvements - - - - -	\$ 193	\$ 183	\$ 208	\$ 190	\$ 231
Horses - - - - -	--	9	9	23	9
Productive livestock - - - - -	--	--	--	--	--
Feed and grain - - - - -	--	--	--	--	--
Machinery and equipment - - - -	606	473	424	475	571
Automobile (farm share) - - - -	106	92	103	108	138
Hired labor - - - - -	444	259	264	424	331
Miscellaneous - - - - -	71	25	24	28	29
Crop expense - - - - -	142	125	107	174	113
Livestock expense - - - - -	70	37	54	69	57
Taxes - - - - -	326	256	207	205	357
Totals - - - - -	\$ 1,958	\$ 1,459	\$ 1,400	\$ 1,696	\$ 1,836
Receipts less expenses - - - - -	\$ 4,096	\$ 2,950	\$ 2,433	\$ 3,614	\$ 3,849
Family labor - - - - -	188	182	303	453	282
Returns for labor, capital, mgt.	3,908	2,768	2,130	3,161	3,567
Operator's labor - - - - -	522	567	510	483	509
Returns for capital and mgt. - -	3,386	2,201	1,620	2,678	3,058
<u>Rate Earned on Investment</u> - - -	9.1%	9.1%	7.4%	10.5%	8.7%
Interest on investment - - - - -	\$ 1,854	\$ 1,208	\$ 1,093	\$ 1,272	\$ 1,757
Labor and Management Earnings - -	2,054	1,560	1,037	1,889	1,810
Nonfarm income - - - - -	\$ 134	\$ 125	\$ 116	\$ 75	\$ 128

TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 5, 1939 (Cont.)

Items	Greene	Montgomery and Jersey	Schuyler Pike, Scott and Brown
Number of farms - - - - -	27	47	62
<u>Capital Investments</u>			
Land - - - - -	\$19,082	\$15,297	\$18,817
Farm improvements - - - - -	3,939	3,176	3,570
Horses - - - - -	417	460	444
Productive livestock: Cattle - - - -	2,248	1,567	1,613
Hogs - - - - -	566	657	877
Sheep - - - - -	62	63	90
Poultry - - - - -	85	101	68
<u>Total productive livestock - - - -</u>	<u>(2,961)</u>	<u>(2,388)</u>	<u>(2,648)</u>
Feed and grain - - - - -	1,889	1,726	2,259
Machinery and equipment - - - - -	1,727	1,534	1,821
Automobile (farm share) - - - - -	135	180	175
<u>Totals - - - - -</u>	<u>\$30,150</u>	<u>\$24,731</u>	<u>\$29,734</u>
<u>Receipts and Net Increases</u>			
Horses - - - - -	\$ --	\$ --	\$ --
Productive livestock: Cattle - - - -	1,752	888	1,188
Dairy sales - - -	559	589	119
Hogs - - - - -	1,604	1,082	1,771
Sheep - - - - -	34	60	66
Poultry - - - - -	46	41	32
Egg sales - - - -	76	122	64
<u>Total productive livestock - - - -</u>	<u>(4,071)</u>	<u>(2,782)</u>	<u>(3,240)</u>
Farm products used in household - -	213	285	245
Feed and grain - - - - -	845	1,095	977
Labor off farm - - - - -	40	61	40
Miscellaneous - - - - -	4	32	14
AAA payments - - - - -	473	449	518
<u>Totals - - - - -</u>	<u>\$ 5,646</u>	<u>\$ 4,704</u>	<u>\$ 5,034</u>
<u>Expenses and Net Decreases</u>			
Farm improvements - - - - -	\$ 238	\$ 206	\$ 226
Horses - - - - -	9	13	16
Productive livestock - - - - -	--	--	--
Feed and grain - - - - -	--	--	--
Machinery and equipment - - - - -	610	402	489
Automobile (farm share) - - - - -	78	91	113
Hired labor - - - - -	511	354	440
Miscellaneous - - - - -	29	29	29
Crop expense - - - - -	151	102	150
Livestock expense - - - - -	93	55	61
Taxes - - - - -	338	228	375
<u>Totals - - - - -</u>	<u>\$ 2,057</u>	<u>\$ 1,480</u>	<u>\$ 1,899</u>
<u>Receipts less expenses - - - - -</u>	<u>\$ 3,589</u>	<u>\$ 3,224</u>	<u>\$ 3,135</u>
Family labor - - - - -	175	252	172
Returns for labor, capital, mgt. - -	3,414	2,972	2,963
Operator's labor - - - - -	517	541	527
Returns for capital and mgt. - - -	2,897	2,431	2,436
<u>Rate Earned on Investment - - - -</u>	<u>9.6%</u>	<u>9.8%</u>	<u>8.2%</u>
Interest on investment - - - - -	\$ 1,507	\$ 1,238	\$ 1,486
<u>Labor and Management Earnings - - -</u>	<u>1,907</u>	<u>1,734</u>	<u>1,477</u>
<u>Nonfarm income - - - - -</u>	<u>\$ 80</u>	<u>\$ 151</u>	<u>\$ 90</u>

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 5, 1939

Items	Morgan	Shelby	Adams	Macoupin
Rate earned on investment- - - - -	9.1%	9.1%	7.4%	10.5%
Acres in farm- - - - -	271	238	225	265
Acres in crops - - - - -	190	158	125	161
Gross earnings per acre- - - - -	\$ 22.33	\$ 18.56	\$ 17.04	\$ 20.01
Total expenses per acre ^{2/} - - - - -	9.84	9.29	9.84	9.92
Net earnings per acre- - - - -	12.49	9.27	7.20	10.09
Investments				
Value of land per acre - - - - -	\$ 98	\$ 69	\$ 57	\$ 53
Value of improvements per acre - - - - -	12	10	15	15
Total investment per acre- - - - -	137	102	97	96
Land Use				
Percent of land area tillable- - - - -	85.4	85.9	77.5	76.0
Percent of tillable land in:				
Corn - - - - -	32.7	28.9	23.2	24.8
Oats - - - - -	9.2	5.9	14.1	10.5
Wheat - - - - -	18.5	5.3	13.0	15.2
Soybeans - - - - -	9.8	17.5	5.6	5.5
Other crops- - - - -	5.6	9.5	9.0	11.6
Legume hay and pasture - - - - -	15.4	17.9	20.5	18.0
Nonlegume hay and pasture- - - - -	8.8	15.0	14.6	14.4
Crop Yields				
Corn - - - - -	65.2	55.8	56.1	61.6
Oats - - - - -	38.4	26.9	34.4	29.5
Wheat- - - - -	26.7	22.8	19.8	24.2
Soybeans - - - - -	25.4	25.0	28.6	25.7
Livestock Factors				
Value of feed fed to prod. L. S. - - -	\$2,117	\$1,078	\$1,641	\$2,194
Feed fed per acre to prod. L. S. - - -	7.81	4.54	7.30	8.27
Returns per acre from prod. L. S. - - -	12.58	8.26	11.62	14.21
Returns per \$100 worth of feed fed - -	161	182	159	172
Returns per \$100 invested in cattle- -	92	117	90	113
Poultry returns per hen - - - - -	2.30	2.34	2.26	2.27
Number of litters farrowed - - - - -	21.4	7.8	20.2	15.0
Number of pigs weaned per litter - - -	6.2	6.8	6.2	6.1
Returns per litter farrowed- - - - -	\$ 79	\$ 86	\$ 73	\$ 82
Average number of cows milked- - - -	6.0	7.1	5.9	8.6
Dairy returns per cow milked - - - -	\$ 83	\$ 79	\$ 56	\$ 108
Expense Factors				
Machinery cost per crop acre ^{1/} - - -	\$ 3.75	\$ 3.57	\$ 4.21	\$ 3.62
Horses and machinery cost per crop A. ^{1/} - - - - -	4.32	4.21	5.15	4.53
Labor cost per crop acre ^{2/} - - - - -	5.81	6.18	8.32	8.23
Labor cost per \$100 gross earnings ^{2/} -	18	22	27	25
Number of work horses - - - - -	4.1	3.4	3.6	3.8
Value of feed fed to horses- - - - -	\$ 112	\$ 92	\$ 109	\$ 123
Improvement cost per acre- - - - -	.71	.77	.92	.72
Taxes per acre - - - - -	1.20	1.08	.92	.77

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 5, 1939 (Cont.)

Items	Christian	Greene	Montgomery and Jersey	Schuyler Pike, Scott and Brown
Rate earned on investment- - - - -	8.7%	9.6%	9.8%	8.2%
Acres in farm- - - - -	242	298	232	305
Acres in crops - - - - -	185	155	144	158
Gross earnings per acre- - - - -	\$ 23.47	\$ 18.91	\$ 20.23	\$ 16.52
Total expenses per acre ^{2/} - - - - -	10.84	9.21	9.77	8.53
Net earnings per acre- - - - -	12.63	9.70	10.46	7.99
Investments				
Value of land per acre - - - - -	\$ 100	\$ 64	\$ 66	\$ 62
Value of improvements per acre - - - - -	16	13	14	12
Total investment per acre- - - - -	145	101	106	98
Land Use				
Percent of land area tillable- - - - -	91.7	68.0	82.1	70.3
Percent of tillable land in:				
Corn - - - - -	25.0	35.2	25.6	30.4
Oats - - - - -	5.3	3.8	7.5	9.9
Wheat- - - - -	15.1	17.7	15.0	14.2
Soybeans - - - - -	26.5	2.9	8.2	3.0
Other crops- - - - -	5.6	12.0	13.6	11.4
Legume hay and pasture - - - - -	10.5	18.6	17.8	20.5
Nonlegume hay and pasture- - - - -	12.0	9.8	12.3	10.6
Crop Yields				
Corn - - - - -	63.1	64.8	61.8	61.6
Oats - - - - -	32.2	29.6	29.9	33.2
Wheat- - - - -	28.3	24.0	27.8	22.1
Soybeans - - - - -	28.8	25.7	28.2	24.5
Livestock Factors				
Value of feed fed to prod. L. S. - - -	\$2,046	\$2,603	\$1,867	\$2,198
Feed fed per acre to prod. L. S. - - -	8.45	8.72	8.03	7.21
Returns per acre from prod. L. S. - - -	12.63	14.15	12.85	11.20
Returns per \$100 worth of feed fed - - -	149	162	160	155
Returns per \$100 invested in cattle- - -	86	93	90	81
Poultry returns per hen - - - - -	2.15	2.11	2.20	1.96
Number of litters farrowed - - - - -	16.4	20.9	13.9	26.4
Number of pigs weaned per litter - - -	6.3	6.2	6.0	6.1
Returns per litter farrowed- - - - -	\$ 85	72	80	75
Average number of cows milked- - - - -	4.3	7.3	7.1	3.8
Dairy returns per cow milked - - - - -	\$ 71	\$ 85	\$ 95	\$ 53
Expense Factors				
Machinery cost per crop acre ^{1/} - - -	\$ 3.84	\$ 4.44	\$ 3.43	\$ 3.82
Horses and machinery cost per crop A. ^{1/} - - - - -	4.38	5.34	4.44	4.57
Labor cost per crop acre ^{2/} - - - - -	5.83	7.51	7.80	6.98
Labor cost per \$100 gross earnings ^{2/} - - -	19	21	24	22
Number of work horses- - - - -	3.4	4.1	3.9	4.0
Value of feed fed to horses- - - - -	\$ 91	\$ 130	\$ 133	\$ 102
Improvement cost per acre- - - - -	.95	.80	.89	.74
Taxes per acre - - - - -	1.47	1.13	.98	1.23

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Influence of Price Changes on Illinois Farm Incomes

All feed and grain, livestock, and other farm property on accounting farms must be valued at both the beginning and the end of the year. Prices at inventory time, therefore, have a marked influence on farm earnings. The influence is greatest where large stocks or supplies are on hand at inventory time; for example, a much larger supply of farm products was found on Illinois farms December 31, 1939, than a year earlier. In fact, grain and livestock inventories have been increasing on Illinois farms since the drouth of 1936 as a result of three years of exceptionally high crop yields and the influence of Agricultural Adjustment Programs which have caused farmers to grow more hay and pasture and to store corn on farms under seal. According to estimates made by the Bureau of Agricultural Economics, U.S.D.A., 356 million bushels of corn were on Illinois farms January 1, 1940, as compared with 325 million bushels January 1 1939.

Livestock numbers on Illinois farms increased sharply in 1939 even though 62 million bushels of 1937 and 1938 corn were placed under seal at the end of the year and 83 million bushels of 1939 corn were sealed by March 31, 1940. The following data indicate the percentage increase in livestock numbers on 2520 accounting farms in Illinois from the beginning to the end of 1939; dairy cows, 2 percent; beef cows, 21 percent; feeder cattle, 17 percent; feeder lambs, 24 percent; brood sows, 4 percent; spring pigs, 38 percent; summer pigs, 23 percent; and fall pigs, 28 percent. Hog numbers have been increasing since 1935 and have now attained record levels; for example, 13.5 sows farrowed per farm on accounting farms in 1939 as contrasted with 9.9 sows farrowed per farm in 1938. The increase in beef cattle numbers is a part of the general up-swing taking place over the entire United States, and it may be expected to continue for several years.

These data indicate that supplies of both feed and livestock were great at the time the 1939 closing inventory was taken than at any other inventory period in several years, and price changes, therefore, are important in interpreting farm earnings for the state and for farming-type areas in 1939.

Prices of important farm products.--Prices for all crops as well as for beef cattle and sheep were higher at the end of 1939 than they were at the beginning, whereas prices for horses, hogs, and poultry were lower. Most of these price increases occurred during the last four months of the year.

December 15, Illinois Farm Prices

	<u>1938</u>	<u>1939</u>	<u>Increase</u>	<u>Decrease</u>
Corn, bu.	\$.42	\$.47	\$.05	\$ --
Oats, bu.	.24	.35	.11	--
Wheat, bu.	.57	.88	.31	--
Soybeans, bu.	.65	.95	.30	--
Hay, tons	6.20	6.50	.30	--
Horses, hd.	88.00	85.00	--	3.00
Hogs, cwt.	7.00	5.10	--	1.90
Beef cattle, cwt.	7.70	8.30	.60	--
Sheep, cwt.	3.45	3.60	.15	--
Chickens, lb.	.13	.11	--	.02

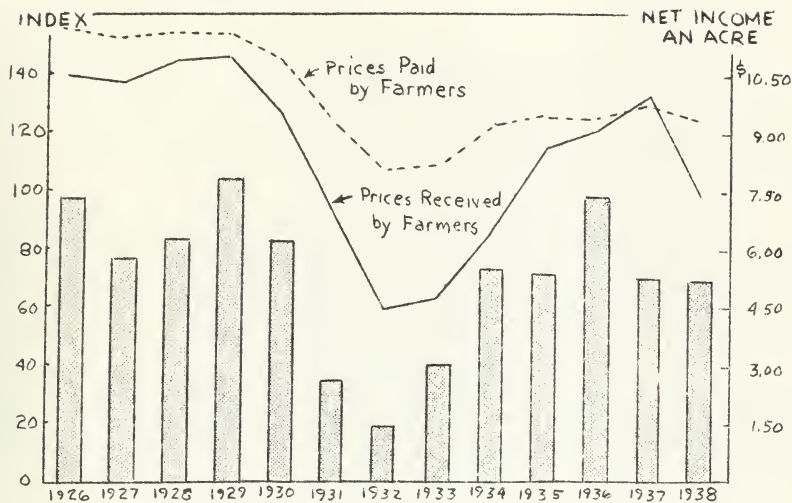


Fig. 1.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1938.

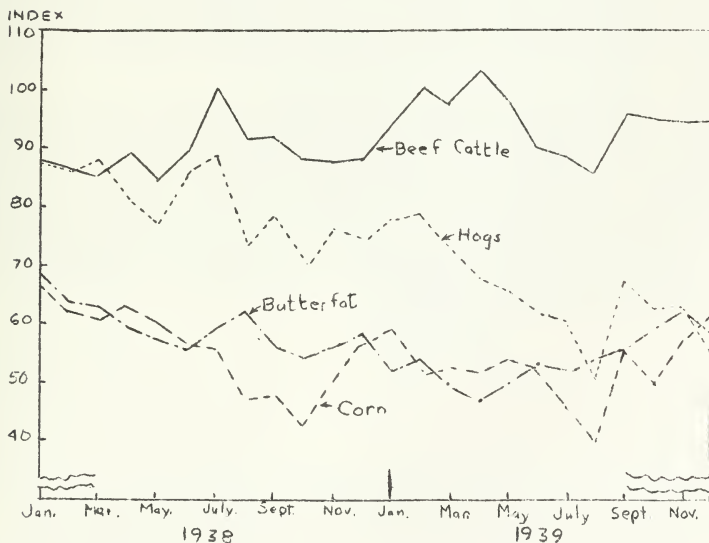


Fig. 2.--Monthly price indices of the average farm prices of corn, hogs, beef cattle, and butterfat, 1938 and 1939. (1924-1929 = 100)

Farm earnings are influenced by the average price received for farm products during the year as well as by the values at inventory time. Although nearly all commodities were higher in price at the end of the year than at the beginning, prices received for the following commodities averaged lower in 1939 than in 1938 by these amounts: corn, 2 cents per bushel; wheat and soybeans, 1 cent per bushel; hogs, \$1.50 per hundred; butterfat, 2 cents per pound; eggs, 3 cents per dozen; and chickens, 2 cents per pound. The prices for other commodities averaged higher in 1939 than in 1938 by the following amounts: oats, 4 cents per bushel; beef cattle, 50 cents per hundred; lambs, 42 cents per hundred; wool, 4 cents per pound; and apples, 12 cents per bushel.

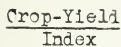
Variation in earnings between the various type-of-farming areas is influenced by the relative prices of grains, livestock, and livestock products. In 1939 as in 1938 livestock had a price advantage over grain, but the advantage was not as marked as it was in 1938. The prices for meat animals dropped from 116 to 110 percent of the 1910-14 average, grains from 74 to 72 percent, chickens and eggs from 106 to 94 percent, and dairy products from 106 to 104 percent.

The corn-hog ratio also narrowed during the year to the disadvantage of the hog enterprise. The amount of corn equal in value to 100 pounds of hogs dropped from 19 bushels in February to 11 bushels in December (based on farm prices). Unfavorable feeding ratios will discourage expansion in hog numbers in 1940.

Crop Yields in Illinois, 1939

Crop yields in Illinois in 1939, as in 1938 and 1937, were unusually high. The weighted average yield of corn, oats, wheat, and soybeans was 133 percent of the 10-year average, 1929-1938. Corn contributed more than did any other crop to the high average yields. The yields of the various crops expressed in percentages of the 1929-1938 averages were: corn, 150; soybeans, 129; wheat, 121; and oats, 97.

Crop yields in all counties except Massac were above the 10-year average (1929-1938 = 100), but wide variations in yields occurred between individual counties and groups of counties. Four counties along the Ohio River had crop-yield indices under 105. In contrast to those counties, 31 were over 136. Many of the counties with the highest yields were in two groups, those located in southwestern and east north central Illinois. Crop-yield indices were adversely affected in southeastern Illinois by the wheat crop and in northern Illinois by low oat yields. Fifty-five counties, which were well-distributed over the state, had crop-yield indices from 121 to 135.



121 - 135

106 - 120

21 - 105

Fig. 3.--Crop yields for 1939, compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1939



FARMING-TYPE AREA SIX St. Louis Dairy and Wheat Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON TWO HUNDRED SEVENTY-ONE FARMS IN FARMING-TYPE AREA 6, 1939

By P. E. Johnston, J. B. Cunningham, and E. N. Searls^{1/}

Farm earnings of accounting farms in Farming-Type Area 6 were higher in 1939 than in 1938. The average net earnings per acre were \$7.96 in 1939, \$5.11 in 1938, \$6.17 in 1937, and \$5.84 in 1936. The items considered in calculating the net earnings included inventory changes, cash receipts, cash expenses, the value of the farm products used in the household (in 1938 and 1939 only), and unpaid family labor (Table 1).



 Farming-Type Area 6
Wheat, Dairy and Poultry

Since the value of farm products used in the household was not included in the records prior to 1938, the earnings for 1938 and 1939 are not strictly comparable to those for other years. The value per acre of farm products used was \$1.39 in 1938 and \$1.31 in 1939.

The accounting farms were larger than average, crop yields were above average, and the farms as a whole were operated with efficiency which was greater than average. Therefore, the figures contained in this report represent conditions which are better than average for this area. This fact is borne out by survey records taken in various areas of the state.

High crop yields and more livestock, accompanied by increased industrial activity and improved demand

for farm products especially during the latter half of the year, were the principal factors producing higher earnings in 1939 (Figs. 1, 2, and 3).

^{1/} R. J. Mutti supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm accounts project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the farm advisers indicated:

T. W. May, Madison County
E. C. Secor, Randolph County
C. S. Cutright, Effingham County
I. F. Green, Bond County
B. W. Tillman, St. Clair County

E. S. Amrine, Monroe County
C. E. Twigg, Clinton County
J. B. Turner, Fayette County
O. W. Hertz, Washington County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 6, 1936-1939

Items	Your farm 1939	Average of all farms in area			
		1939	1938	1937	1936
Number of farms- - - - -	--	271	289	267	233
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$	\$ 54	\$ 96	\$ 65	\$ 58
Livestock- - - - -		142	52	116	83
Feed and grain - - - - -		332	-135	173	231
Machinery and equipment ^{1/} - - - - -		56	161	261	128
Automobile (farm share)- - - - -		13	8	--	--
Totals - - - - -	\$	\$ 597	\$ 182	\$ 615	\$ 500
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$	\$ 8	\$ 9	\$ 1	\$ 2
Horses - - - - -		45	56	69	63
Productive livestock: Cattle - - - - -		449	476	385	422
Dairy sales- - - - -		341	874	836	677
Hogs - - - - -		584	601	593	607
Sheep- - - - -		38	51	50	69
Poultry- - - - -		115	117	127	139
Egg sales- - - - -		225	282	260	264
Total productive livestock - - - - -	()	(2,252)	(2,401)	(2,251)	(2,178)
Feed and grain - - - - -		852	701	1,053	825
Machinery and equipment ^{1/} - - - - -		170	189	221	171
Automobile (farm share)- - - - -		28	30	--	--
Labor off farm - - - - -		50	63	73	74
Miscellaneous- - - - -		15	10	11	7
AAA payments - - - - -		229	94	153	117
Totals - - - - -	\$	\$3,649	\$3,553	\$3,832	\$3,437
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$	\$ 219	\$ 258	\$ 210	\$ 193
Horses - - - - -		28	47	60	68
Productive livestock: Cattle - - - - -		248	173	137	135
Hogs - - - - -		51	63	39	72
Sheep- - - - -		5	5	21	15
Poultry- - - - -		28	29	28	31
Total productive livestock - - - - -	()	(332)	(270)	(225)	(253)
Feed and grain - - - - -		112	364	532	447
Machinery and equipment ^{1/} - - - - -		570	693	762	551
Automobile (farm share)- - - - -		114	121	--	--
Hired labor- - - - -		229	204	196	164
Miscellaneous- - - - -		23	25	24	26
Crop expense - - - - -		84	95	231	160
Livestock expense- - - - -		42	34	28	26
Taxes- - - - -		153	156	150	137
Totals - - - - -	\$	\$2,216	\$2,267	\$2,418	\$2,025
<u>Summary</u>					
Cash balance - - - - -	\$	\$1,433	\$1,286	\$1,414	\$1,412
Farm products used in household ^{2/} - - - - -		264	290	--	--
Total inventory change - - - - -		597	182	615	500
Receipts less expenses - - - - -		2,294	1,758	2,029	1,912
Total unpaid labor - - - - -		688	697	714	717
Net earnings per farm- - - - -	\$	\$1,606	\$1,061	\$1,315	\$1,195
Net earnings per acre- - - - -	\$	\$ 7.96	\$ 5.11	\$ 6.17	\$ 5.84

^{1/} Includes farm share of automobile for 1936 and 1937.

^{2/} Not included as income for 1936 and 1937.

Inventory Changes, Cash Receipts, Cash Expenses, and Earnings

Inventory changes.--The year 1939 was the fourth consecutive year of increasing inventories, the increases averaging \$597 in 1939, \$182 in 1938, \$615 in 1937, and \$500 in 1936 (Table 1). The largest increases in 1939 were in feed and grain and in livestock. The increased value of feed and grain represented higher prices at the end of the year as well as larger quantities of grain on hand (Page 1 and Fig. 2). The average amounts of grain on hand in Area 6 at the two inventory periods follow:

	<u>Beginning of year (bushels)</u>	<u>End of year (bushels)</u>
Corn	940	1217
Oats	271	274
Wheat	260	267
Soybeans	25	25

Cash receipts. Cash receipts reached the second highest level in four years, averaging \$3,649 in 1939. Feed and grain and AAA receipts were larger in 1939 than in 1938, but productive livestock sales were smaller. The larger AAA receipts were mainly due to a doubling-up in payments, many farmers receiving payments in 1939 for participation in both the 1938 and 1939 programs. (Table 1).

Cash expenses. Cash expenses were lower in 1939 than in either 1938 or 1937, but they were higher in 1939 than in 1936. Less money was spent for improvements, machinery, and crop expenses in 1939 than in 1938, although more was spent for productive livestock, feed and grain, labor, livestock expense, and taxes.

Earnings. Cash receipts exceeded cash expenses in 1939 by \$1,423, or by a larger margin than that for any other year during the past four years. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The amounts deducted for operator's and family labor remained rather uniform during the 4-year period, a difference of only \$29 occurring between the low year, 1939, and the high year, 1936. The uniformity in valuation was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$40 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$1,606 in 1939 as contrasted with \$1,061 for 1938. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

TABLE 2.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 6, 1939

Items	Your farm	Average of all farms	Land-area tillable	
			85 percent or more	Less than 85 percent
Number of farms - - - - -	--	271	132	139
<u>Capital investments</u>				
Land- - - - -	\$ _____	\$ 9,851	\$ 10,480	\$ 9,254
Farm improvements - - - - -	_____	2,690	2,614	2,763
Horses- - - - -	_____	451	468	435
Productive livestock: Cattle- - - - -	_____	972	964	980
Hogs- - - - -	_____	279	257	301
Sheep - - - - -	_____	37	27	46
Poultry - - - - -	_____	155	152	157
Total productive livestock- - - - -	(_____)	(1,443)	(1,400)	(1,484)
Feed and grain- - - - -	_____	1,302	1,418	1,192
Machinery and equipment - - - - -	_____	1,508	1,572	1,447
Automobile (farm share) - - - - -	_____	143	152	134
Totals- - - - -	\$ _____	\$ 17,388	\$ 18,104	\$ 16,709
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ _____	\$ --	\$ --	\$ --
Productive livestock: Cattle- - - - -	_____	389	380	397
Dairy sales - - - - -	_____	841	853	830
Hogs- - - - -	_____	524	411	631
Sheep - - - - -	_____	31	20	43
Poultry - - - - -	_____	73	71	73
Egg sales - - - - -	_____	225	237	212
Total productive livestock - - - - -	(_____)	(2,083)	(1,972)	(2,186)
Farm products used in household - - - - -	_____	264	263	266
Feed and grain- - - - -	_____	772	1,053	505
Labor off farm- - - - -	_____	50	53	47
Miscellaneous - - - - -	_____	15	10	20
AAA payments- - - - -	_____	229	247	212
Totals- - - - -	\$ _____	\$ 3,413	\$ 3,598	\$ 3,236
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ _____	\$ 157	\$ 151	\$ 163
Horses - - - - -	_____	4	5	3
Productive livestock- - - - -	_____	--	--	--
Feed and grain- - - - -	_____	--	--	--
Machinery and equipment - - - - -	_____	344	337	350
Automobile (farm share) - - - - -	_____	73	76	70
Hired labor - - - - -	_____	229	253	207
Miscellaneous - - - - -	_____	23	24	23
Crop expense - - - - -	_____	84	92	76
Livestock expense - - - - -	_____	42	41	42
Taxes - - - - -	_____	163	171	154
Totals- - - - -	\$ _____	\$ 1,119	\$ 1,150	\$ 1,088
Receipts less expenses- - - - -	\$ _____	\$ 2,294	\$ 2,448	\$ 2,148
Family labor- - - - -	_____	258	237	278
Returns for labor, capital, mgt.- - - - -	_____	2,036	2,211	1,870
Operator's labor- - - - -	_____	430	431	430
Returns for capital and mgt.- - - - -	_____	1,606	1,780	1,440
Rate Earned on Investment - - - - -	_____ %	9.2%	9.8%	8.6%
Interest on investment- - - - -	\$ _____	\$ 869	905	836
Labor and Management Earnings - - - - -	_____	1,167	1,306	1,034
Nonfarm income - - - - -	\$ _____	\$ 111	\$ 95	\$ 126

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 6; for example, 30 farms earned less than 3 percent on their investment, with an average rate earned of less than 1 percent, but in contrast 33 farms earned 15 percent or more, with an average rate earned of 18 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$117 for labor and management earnings as contrasted with a gain of \$2,441 for the latter group. By studying the reasons for these variations, farm operators can improve their chances of financial success. The variation in earnings and in size of farm for all records in the areas was as follows:

<u>Rate earned on investment (percent)</u>	<u>Number of farms</u>	<u>Average rate earned (percent)</u>	<u>Acres per farm</u>	<u>Capital in- vested per farm</u>	<u>Gross earnings per farm</u>	<u>Net earnings per farm</u>	<u>Labor and management earnings</u>
Less than 3.0	30	.9	174	\$12,980	\$1,796	\$ 116	\$ -117
3.0 to 6.9	55	5.3	218	18,224	2,993	958	483
7.0 to 10.9	101	8.9	208	18,533	3,569	1,649	1,149
11.0 to 14.9	52	12.8	196	18,239	4,505	2,334	1,857
15 or more	33	18.2	189	15,158	4,594	2,761	2,441

Comparison of Farms According to Quality of Land

The 271 farms were divided into two groups according to the percent of land area tillable. Of this total number of farms 132 had 85 percent or more of land area tillable, and 139 had less than 85 percent tillable. Thus, the average percent tillable was 92.6 for the former group and 68.8 for the latter group.

This grouping of farms gives each farmer an opportunity to compare his farm with the average of other farms having a similar quality of land as well as with the average of all accounting farms (Tables 2 and 3).

The capital investment averaged \$18,104, or \$97 per acre, for the group of farms having the larger percent of land area tillable, as compared with a capital investment averaging \$16,709, or \$77 per acre, for the group of farms having the smaller percent of land area tillable.

The receipts and net increases were \$362 larger on farms of higher quality land than on those of lower quality land, and expenses and net decreases were \$62 larger. The livestock receipts were \$214 smaller for the farms with the larger percent of land area tillable, whereas the grain receipts were \$548 larger. The rate earned on investment was 9.8 percent and 8.6 percent, respectively, for the two groups of farms, and the labor and management earnings were \$1,306 and \$1,034.

The farms on higher quality land were 30 acres smaller than those on lower quality land; yet the former had 20 acres more land in crops. They also had a larger percent of tillable land in grain crops but a smaller percent in hay and pasture. The amount of livestock per farm was practically the same for the two groups of farms as indicated by the value of feed fed to productive livestock and the capital invested in productive livestock (Table 4).

TABLE 3.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 6, 1939

Items	Your farm	Average of all farms	Land-area tillable	
			85 percent or more	Less than 85 percent
Rate earned on investment- - - - -	_____ %	9.2%	9.8%	8.6%
Acres in farm- - - - -	_____	201.7	186.1	216.6
Acres in crops - - - - -	_____	120.8	131.1	111.0
Gross earnings per acre- - - - -	\$ _____	\$ 16.92	\$ 19.33	\$ 14.94
Total expenses per acre ² / - - - - -	_____	8.96	9.77	8.29
Net earnings per acre- - - - -	_____	7.96	9.56	6.65
<u>Investments</u>				
Value of land per acre - - - - -	\$ _____	\$ 49.	\$ 56.	\$ 43.
Value of improvements per acre - - - - -	_____	13.	14.	13.
Total investment per acre- - - - -	_____	86.	97.	77.
<u>Land Use</u>				
Percent of land-area tillable- - - - -	_____	79.5	92.6	68.8
Percent of tillable land in:				
Corn - - - - -	_____	19.1	19.5	18.7
Oats - - - - -	_____	8.8	9.3	8.2
Wheat- - - - -	_____	21.3	21.6	20.8
Soybeans - - - - -	_____	2.2	2.3	2.0
Other crops- - - - -	_____	12.1	11.4	13.0
Legume hay and pasture - - - - -	_____	23.3	21.0	26.0
Non-legume hay and pasture - - - - -	_____	13.2	14.9	11.3
<u>Crop Yields</u>				
Corn - - - - -	_____	53.2	55.5	50.5
Oats - - - - -	_____	28.2	28.1	28.5
Wheat- - - - -	_____	24.7	25.5	23.8
Soybeans - - - - -	_____	18.9	19.7	18.0
<u>Livestock Factors</u>				
Value of feed fed to prod. L. S. -	\$ _____	\$1,268.	\$1,200.	\$1,333.
Feed fed per acre to prod. L. S. -	_____	6.29	6.45	6.15
Returns per acre from prod. L. S.-	_____	11.23	11.60	10.92
Returns per \$100 worth of feed fed	_____	179.	180.	177.
Returns per \$100 invested in cattle	_____	122.	123.	121.
Poultry returns per hen- - - - -	_____	2.30	2.26	2.28
Number of litters farrowed - - - - -	_____	8.6	6.5	10.5
Number of pigs weaned per litter - - - - -	_____	6.5	6.3	6.5
Returns per litter farrowed- - - - -	\$ _____	\$ 81.	\$ 77.	\$ 82.
Average number of cows milked- - - - -	_____	9.1	9.3	8.9
Dairy returns per cow milked - - - - -	\$ _____	\$ 101.	\$ 101.	\$ 102.
<u>Expense Factors</u>				
Machinery cost per crop acre ¹ / - - - - -	\$ _____	\$ 3.45	\$ 3.15	\$ 3.78
Horse and machinery cost per crop ^A . - - - - -	_____	4.68	4.36	5.03
Labor cost per crop acre ² / - - - - -	_____	7.39	6.84	8.06
Labor cost per \$100 gross earnings ² / - - - - -	_____	26.	25.	28.
Number of work horses- - - - -	_____	4.0	4.0	4.0
Value of feed fed to horses- - - - -	\$ _____	\$ 144.	\$ 154.	\$ 135.
Improvement cost per acre- - - - -	_____	.78	.81	.75
Taxes per acre - - - - -	_____	.81	.92	.71

¹/ Includes farm share of automobile.

²/ Includes operator's and family labor.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS, ON
FARMS WITH MORE THAN 85 PERCENT OF THE LAND AREA TILLABLE

Accounting Farms in Farming-Type Area 6, 1939

The numbers above the lines across the middle of the page are the averages for the 132 farms included in this group for the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings									Total expense per acre	Factors that affect expenses		
			Percent tillable land in legume hay and pasture	Crop yields			Feed fed per acre to prod. L. S.	Returns per \$100 feed fed	Poultry returns per hen	Hog returns per litter farrowed	Dairy returns per cow milked		Horse and machinery cost per crop acre	Labor cost per crop acre	Labor cost per \$100 gross earnings
				Corn, bu.	Oats, bu.	Wheat, bu.									
20	286	34	36	76	48	36	16	280	3.80	127	151	5	2.00	2	10
18	266	31	33	72	44	34	14	260	3.50	117	141	6	2.50	3	13
16	246	28	30	68	40	32	12	240	3.20	107	131	7	3.00	4	16
14	226	25	27	64	36	30	10	220	2.90	97	121	8	3.50	5	19
12	206	22	24	60	32	28	8	200	2.60	87	111	9	4.00	6	22
9.8	186	19.33	21	55.5	28.1	25.5	6.45	180	2.26	77	101	9.77	4.36	6.84	25
8	166	16	18	52	24	24	4	160	2.00	67	91	11	5.00	8	28
6	146	13	15	48	20	22	2	140	1.70	57	81	12	5.50	9	31
4	126	10	12	44	16	20	0	120	1.40	47	71	13	6.00	10	34
2	106	7	9	40	12	18	-	100	1.10	37	61	14	6.50	11	37
0	86	4	6	36	8	16	-	80	.80	27	51	15	7.00	12	40

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 6, 1939

Items	Source of income					
	Grain 40%+	Dairy sales 40%+	Hogs ^{3/} 40%+	Truck crop	General farms	
					L.S. 60%+	L.S. 60%+
Number of farms - - - - -	41	52	11	11	89	67
Percent income from prod. L. S. -	32.9	73.8	91.0	33.8	49.5	74.1
Percent income from crops - - - -	51.0	13.3	--	53.8	29.8	9.9
<u>Investments</u>						
Total per farm - - - - -	\$18,085	\$17,605	\$19,203	\$17,074	\$16,619	\$17,569
Total per acre - - - - -	86	96	87	104	76	91
Land per acre - - - - -	56	50	48	60	44	49
Improvements per acre - - - - -	11	16	14	14	12	15
Machinery per acre ^{1/} - - - - -	8.16	10.14	7.10	12.20	7.12	7.97
<u>Earnings</u>						
Per farm						
Gross earnings - - - - -	\$ 3,329	\$ 3,652	\$ 5,586	\$ 4,522	\$ 3,163	\$ 3,367
Gross expenses ^{2/} - - - - -	1,710	1,862	3,898	2,508	1,675	1,837
Net earnings - - - - -	1,619	1,790	1,688	2,014	1,488	1,530
Per acre						
Gross earnings - - - - -	\$ 15.90	\$ 19.91	\$ 25.28	\$ 27.57	\$ 14.54	\$ 17.42
Gross expenses ^{2/} - - - - -	8.16	10.15	17.64	15.29	7.70	9.51
Net earnings - - - - -	7.74	9.76	7.64	12.28	6.84	7.91
Rate earned on investment - - -	8.9%	10.2%	8.8%	11.8%	8.95%	8.7%
Labor and mgt. earnings - - - -	\$ 1,166	\$ 1,327	\$ 1,109	\$ 1,603	\$ 1,093	\$ 1,078
<u>Size and Intensity</u>						
Acres per farm - - - - -	209.3	183.4	221.0	164.0	217.6	193.2
Percent land-area tillable - - -	85.7	77.2	72.9	77.7	78.9	79.6
Percent tillable land in grain -	64.4	50.8	49.8	45.8	51.7	53.9
Percent in hay and pasture - - -	27.2	42.7	35.6	23.9	37.5	39.3
Feed fed per acre to prod. L.S. \$	3.51	7.75	16.36	4.83	4.61	7.87
Months of labor per 100 crop A.	14.4	21.3	16.4	28.6	17.4	20.2
Total months of labor - - - - -	20.7	22.7	19.2	30.7	21.6	23.5
<u>Crop Yields Per Acre</u>						
Corn, bu. - - - - -	56.0	55.6	49.7	55.6	50.1	54.0
Wheat, bu. - - - - -	24.8	24.7	24.6	26.0	24.8	24.3
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 171	\$ 202	\$ 144	\$ 223	\$ 175	\$ 177
Hog returns per litter - - - - -	69	73	82	73	84	82
Dairy returns per cow - - - - -	79	129	95	105	85	91
<u>Expense Factors</u>						
Labor cost ^{2/} - - - - -						
Per crop acre - - - - -	\$ 5.80	\$ 8.41	\$ 6.59	\$ 11.68	\$ 6.52	\$ 7.72
Per \$100 gross earnings - - - -	25	25	14	28	26	27
Horse and machinery cost per crop acre ^{1/} - - - - -	3.89	5.86	6.24	6.57	4.03	4.81
Improvement cost per acre - - -	.52	.83	1.32	.81	.70	.93
Land tax per acre - - - - -	.81	.62	.78	1.21	.65	.67

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

^{3/} Includes several large and specialized hog farms.

Larger crop yields per acre on the farms on higher quality land, which amounted to 5 bushels of corn, 1.7 bushels of wheat, and 1.7 bushels of soybeans, indicate the relative productive level of the two groups of farms.

The operating expenses per acre averaged \$9.77 on the farms with the most tillable land and \$8.79 on the farms with the least tillable land. The combined cost per crop acre for labor, machinery, and horses was \$1.89 smaller on the farms with the larger percent of tillable land, although the combined cost per acre for improvements and taxes was \$.27 larger.

The livestock-efficiency factors, such as poultry returns per hen, hog returns per litter of pigs farrowed, and dairy returns per cow milked, were not appreciably affected by the quality of land. These factors indicate that the two groups of farms were operated with about the same degree of efficiency. Therefore, it may be assumed that the differences in organization, land use, crop yields, and costs were principally due to the differences in the productivity of the land on the two groups of farms.

Source of Income

The 271 farms were divided into six groups according to source of income (Table 4). The items in this table, for the most part, were made to correspond with the items given in Table 3; therefore, a farmer may compare the data in the "Your farm" column of Table 3 with the "Source of income" column in Table 4, which corresponds to the classification for his own farm.

In a comparison of the groups of farms the fact that conditions affecting production and price relationships vary from year to year should be kept in mind. Therefore, the average differences in earnings in 1939 are not necessarily typical of the variations that may be expected over a long period of years. The following items, for example, indicate that generally the grain farms were located on the better land: high value of land per acre, large percent of land area tillable, large percent of land in grain, and high yield of corn per acre.

The returns per \$100 feed that are necessary to pay for feed (including pasture) and other costs, according to 5-year averages of complete cost studies (1933-1937), follow: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117. There is little wonder, therefore, that the six groups of accounting farms with different classes and proportions of livestock varied widely in their returns per \$100 worth of feed fed. The amount of feed fed per acre to productive livestock averaged \$16.36 on the hog farms but only \$3.51 on the grain farms.

Differences in expenses are significant for the six groups of farms. Labor input was highest on the truck farms, where 30.7 months of labor were used, and lowest on the hog farms, where 19.2 months of labor were used; horse and machinery cost per crop acre averaged \$6.57 on the truck farms, \$6.24 on the hog farms, \$5.86 on the dairy farms, and only \$3.89 on the grain farms; improvement costs per acre ranged from \$1.32 on the hog farms to \$.52 on the grain farms; and land taxes ranged from \$1.21 on the truck farms to \$.62 on the dairy farms.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 6, 1939

Items	Total acres in farm				
	41 to 120	121 to 200	201 to 280	281 to 360	361 or more
Number of farms - - - - -	48	110	79	23	11
Acres per farm- - - - -	101.0	166.8	236.1	321.8	492.1
<u>Investments</u>					
Total per farm- - - - -	\$11,705	\$15,320	\$19,357	\$24,980	\$32,861
Total per acre- - - - -	116	92	82	78	67
Land per acre - - - - -	61	49	48	46	43
Improvements per acre - - - - -	21	15	12	11	9
Machinery per acre ^{1/} - - - - -	10.47	9.38	7.78	6.93	5.14
<u>Earnings</u>					
Per farm					
Gross earnings- - - - -	\$ 2,416	\$ 3,093	\$ 3,831	\$ 4,555	\$ 5,627
Gross expenses ^{2/} - - - - -	1,354	1,628	2,032	2,403	2,775
Net earnings- - - - -	1,062	1,465	1,799	2,152	2,852
Per acre					
Gross earnings- - - - -	\$ 23.92	\$ 18.54	\$ 16.23	\$ 14.15	\$ 11.44
Gross expenses ^{2/} - - - - -	13.40	9.76	8.61	7.46	5.64
Net earnings- - - - -	10.52	8.78	7.62	6.69	5.80
Rate earned on investment - - - - -	9.1%	9.6%	9.3%	8.6%	8.7%
Labor and management earnings - - - - -	\$ 878	\$ 1,142	\$ 1,273	\$ 1,288	\$ 1,659
<u>Size and Intensity</u>					
Percent land-area tillable- - - - -	83.6	82.0	81.8	75.4	65.3
Percent tillable land in grain - - - - -	52.1	55.2	54.7	52.7	49.4
Percent in hay and pasture- - - - -	39.3	36.2	35.5	37.5	38.6
Feed fed per acre to prod. L. S.- - - - -	\$ 8.86	\$ 7.27	\$ 5.79	\$ 5.18	\$ 3.89
Percent of income from prod. L. S.- - - - -	64	63.8	58.8	56.3	58.1
Percent of income from grain- - - - -	20.6	20.4	24.9	22.5	27.2
Months of labor per 100 crop acres- - - - -	28.5	19.2	16.5	16.4	15.1
Total months of labor - - - - -	19.0	20.4	24.1	29.2	30.8
<u>Crop Yields Per Acre</u>					
Corn, bu. - - - - -	59.5	55.1	52.4	47.9	48.8
Wheat, bu.- - - - -	25.5	25.8	23.7	25.1	22.1
<u>Livestock Returns</u>					
Per \$100 feed fed- - - - -	\$ 190	\$ 177	\$ 180	\$ 168	\$ 180
Hog returns per litter- - - - -	75	81	77	88	86
Dairy returns per cow - - - - -	113	100	97	103	109
<u>Expense Factors</u>					
Labor cost per crop acre ^{2/} - - - - -	\$ 11.04	\$ 7.44	\$ 6.40	\$ 6.34	\$ 5.92
Labor cost per \$100 gross earnings- - - - -	30	25	24	25	21
Horse and machinery cost per crop A. ^{1/} - - - - -	5.49	4.75	4.63	4.28	4.11
Improvement cost per acre - - - - -	1.03	.85	.70	.70	.66
Land tax per acre - - - - -	.96	.71	.68	.64	.51

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Size of Farm As Related to Earnings

The farm records in Farming-Type Area 6, when sorted according to the total acres in the farm, indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller farms. The operators on the larger farms took in more money during the year than did the operators on the smaller farms; and after deductions were made for farm business expenditures and interest on the investment, the 11 largest farms had labor and management earnings which averaged \$1,659 as contrasted with \$878 for the 48 smallest farms. The earnings, as measured by the rate earned on the investment, were slightly higher, however, for the smaller farms than for the larger ones. In years when the average rate earned on investment for groups of farms exceeds the capitalization rate (5 percent) the average labor and management earnings are higher on the larger farms than on the smaller ones, but these earnings are lower when the rate earned averages less than the capitalization rate.

The smaller farms were operated more intensively than were the larger farms. This variation was indicated by the much higher gross and net earnings per acre, by the larger proportion of total land tillable, by the higher land values, by the larger amount of feed fed per acre to productive livestock, and by the substantially higher crop yields.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and the source of farm income (Tables 6 and 7).

In this report an average was calculated for each county from which 30 or more records were received. Averages were made in some instances with less than 30 records if it was necessary to eliminate some records because they were incomplete or not typical for the area. In any tabulation containing as few as 30 records, part of the variation from county to county is due to the fact that the averages do not represent a cross section of the county.

The tabulations by counties and by groups of counties may be used by extension specialists, farm advisers, and county program-building committees to represent the type of farm organization and the level of operating efficiency attained by a selected group of progressive farmers in the various parts of a farming-type area. Since the personnel of the accounting group changes slowly, comparisons may be made from county to county and from year to year even though these records are from farms with efficiency which is higher than average.

TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 6, 1939

Items	Madison	Randolph	Effingham	Bond ^{1/}
Number of farms - - - - -	81	33	30	28
<u>Capital Investments</u>				
Land- - - - -	\$ 9,325	\$ 8,752	\$ 7,485	\$10,953
Farm improvements - - - - -	2,592	2,685	2,338	3,150
Horses - - - - -	441	506	415	280
Productive livestock: Cattle- - - -	1,098	855	1,015	1,096
Hogs- - - - -	238	208	159	620
Sheep - - - - -	17	21	63	104
Poultry - - - - -	143	113	168	109
Total productive livestock- - - - -	(1,496)	(1,197)	(1,405)	(1,929)
Feed and grain - - - - -	1,274	1,218	1,046	1,329
Machinery and equipment - - - - -	1,512	1,416	1,004	1,573
Automobile (farm share) - - - - -	139	118	131	183
Totals- - - - -	\$16,779	\$15,892	\$13,824	\$19,397
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ --	\$ 35	\$ 4	\$ --
Productive livestock: Cattle- - - -	390	528	346	515
Dairy sales - - - - -	1,086	547	643	916
Hogs- - - - -	375	373	200	1,629
Sheep - - - - -	13	29	62	86
Poultry - - - - -	63	58	144	7
Egg sales - - - - -	168	204	205	133
Total productive livestock- - - - -	(2,095)	(1,739)	(1,600)	(3,286)
Farm products used in household - -	257	265	256	214
Feed and grain- - - - -	798	599	507	186
Labor off farm- - - - -	45	45	27	134
Miscellaneous - - - - -	14	3	35	15
AAA payments- - - - -	109	276	224	227
Totals- - - - -	\$ 3,318	\$ 2,962	\$ 2,653	\$ 4,062
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ 129	\$ 177	\$ 128	\$ 265
Horses- - - - -	12	--	--	4
Productive livestock- - - - -	--	--	--	--
Feed and grain- - - - -	--	--	--	--
Machinery and equipment - - - - -	284	371	218	395
Automobile (farm share) - - - - -	69	69	69	91
Hired labor - - - - -	245	166	99	290
Miscellaneous - - - - -	22	25	22	22
Crop expense- - - - -	83	80	66	108
Livestock expense - - - - -	37	34	36	50
Taxes - - - - -	144	162	125	182
Totals- - - - -	\$ 1,025	\$ 1,084	\$ 763	\$ 1,407
Receipts less expenses- - - - -	\$ 2,293	\$ 1,878	\$ 1,890	\$ 2,655
Family labor- - - - -	245	252	290	273
Returns for labor, capital, mgt.- -	2,048	1,626	1,600	2,382
Operator's labor- - - - -	436	444	417	429
Returns for capital and mgt.- - -	1,612	1,182	1,183	1,953
Rate Earned on Investment - - - - -	9.6%	7.4%	8.6%	10.1%
Interest on investment- - - - -	\$ 839	\$ 795	\$ 691	\$ 969
Labor and Management Earnings - - -	1,209	831	909	1,413
Non farm income - - - - -	\$ 100	\$ 62	\$ 244	\$ 87

^{1/} Thirty or more records were completed in these counties, but certain ones were not used in the report since they were incomplete or not typical.

TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 6, 1939 (Cont.)

Items	St.Clair ^{1/}	Monroe	Clinton, Fayette, & Washington
Number of farms - - - - -	28	28	43
<u>Capital Investments</u>			
Land - - - - -	\$12,329	\$12,628	\$ 9,199
Farm improvements - - - - -	3,400	2,199	2,684
Horses - - - - -	601	426	484
Productive livestock: Cattle - - - - -	812	482	1,137
Hogs - - - - -	409	240	217
Sheep - - - - -	10	19	52
Poultry - - - - -	157	170	218
Total productive livestock - - - - -	(1,388)	(911)	(1,624)
Feed and grain - - - - -	1,485	1,220	1,516
Machinery and equipment - - - - -	1,717	1,660	1,644
Automobile (farm share) - - - - -	183	134	128
Totals - - - - -	\$21,103	\$19,178	\$17,279
<u>Receipts and Net Increases</u>			
Horses - - - - -	\$ 8	\$ --	\$ --
Productive livestock: Cattle - - - - -	365	188	372
Dairy sales - - - - -	689	486	1,027
Hogs - - - - -	684	422	390
Sheep - - - - -	14	20	30
Poultry - - - - -	114	113	39
Egg sales - - - - -	294	333	304
Total productive livestock - - - - -	(2,160)	(1,562)	(2,162)
Farm products used in household - - - - -	281	315	272
Feed and grain - - - - -	1,262	1,171	843
Labor off farm - - - - -	51	24	39
Miscellaneous - - - - -	24	9	11
AAA payments - - - - -	276	436	261
Totals - - - - -	\$ 4,062	\$ 3,517	\$ 3,588
<u>Expenses and Net Decreases</u>			
Farm improvements - - - - -	\$ 172	\$ 139	\$ 147
Horses - - - - -	--	32	16
Productive livestock - - - - -	--	--	--
Feed and grain - - - - -	--	--	--
Machinery and equipment - - - - -	422	443	375
Automobile (farm share) - - - - -	79	79	66
Hired labor - - - - -	355	179	252
Miscellaneous - - - - -	24	18	27
Crop expense - - - - -	97	70	86
Livestock expense - - - - -	58	34	48
Taxes - - - - -	238	180	151
Totals - - - - -	\$ 1,445	\$ 1,174	\$ 1,168
Receipts less expenses - - - - -	\$ 2,617	\$ 2,343	\$ 2,420
Family labor - - - - -	236	373	196
Returns for labor, capital, mgt. - - - - -	2,381	1,970	2,224
Operator's labor - - - - -	472	433	389
Returns for capital and mgt. - - - - -	1,909	1,537	1,835
Rate Earned on Investment - - - - -	9.1%	8.0%	10.6%
Interest on investment - - - - -	\$ 1,055	\$ 958	\$ 864
Labor and Management Earnings - - - - -	1,326	1,012	1,360
Non farm income - - - - -	\$ 31	\$ 61	\$ 174

^{1/} Thirty or more records were completed in these counties, but certain ones were not used in the report since they were incomplete or not typical.

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 6, 1939

Items	Madison	Randolph	Effingham	Bond
Rate earned on investment- - - - -	9.6%	7.4%	8.6%	10.1%
Acres in farm- - - - -	163	218	217	264
Acres in crops - - - - -	106	130	119	142
Gross earnings per acre- - - - -	\$ 20.30	\$ 13.56	\$ 12.25	\$ 15.36
Total expenses per acre ^{2/} - - - - -	10.44	8.15	6.79	7.98
Net earnings per acre- - - - -	9.86	5.41	5.46	7.38
<u>Investments</u>				
Value of land per acre - - - - -	\$ 57	\$ 40	\$ 35	\$ 41
Value of improvements per acre - - -	16	12	11	12
Total investment per acre- - - - -	103	73	64	73
<u>Land Use</u>				
Percent of land-area tillable- - - -	80.0	83.9	79.4	76.6
Percent of tillable land in:				
Corn - - - - -	21.9	13.7	19.2	18.9
Oats - - - - -	6.7	8.8	10.0	8.7
Wheat- - - - -	24.0	25.7	7.4	12.7
Soybeans - - - - -	.9	2.1	3.9	3.5
Other crops- - - - -	13.1	10.6	10.4	15.0
Legume hay and pasture - - - - -	21.5	30.5	19.6	25.5
Non-legume hay and pasture - - - -	11.9	8.6	29.5	15.7
<u>Crop Yields</u>				
Corn - - - - -	61.1	45.9	41.2	50.4
Oats - - - - -	26.6	28.1	23.3	23.0
Wheat- - - - -	25.0	20.8	23.8	22.3
<u>Livestock Factors</u>				
Value of feed fed to prod. L. S. - -	\$1,148	\$1,239	\$ 930	\$2,072
Feed fed per acre to prod. L. S. - -	7.03	5.67	4.29	7.83
Returns per acre from prod. L. S. - -	13.89	8.80	8.21	12.95
Returns per \$100 worth of feed fed -	198	155	191	165
Returns per \$100 invested in cattle-	131	108	102	117
Poultry returns per hen - - - - -	2.30	2.39	2.38	1.48
Number of litters farrowed - - - - -	6.8	4.9	5.0	26.9
Number of pigs weaned per litter - -	6.3	6.7	6.4	6.8
Returns per litter farrowed- - - - -	\$ 73	\$ 91	\$ 66	\$ 86
Average number of cows milked- - - -	10.6	7.1	8.9	10.8
Dairy returns per cow milked - - - -	\$ 108	\$ 90	\$ 83	\$ 100
<u>Expense Factors</u>				
Machinery cost per crop acre ^{1/} - - -	\$ 3.32	\$ 3.38	\$ 2.42	\$ 3.43
Horses and machinery cost per crop A. ^{1/} - - - - -	4.81	4.17	3.46	4.10
Labor cost per crop acre ^{2/} - - - - -	8.57	6.47	6.56	6.58
Labor cost per \$100 gross earnings ^{2/} -	27	28	29	23
Number of work horses- - - - -	4.1	4.3	4.1	2.9
Value of feed fed to horses- - - - -	\$ 146	\$ 138	\$ 128	\$ 90
Improvement cost per acre- - - - -	.79	.81	.59	1.00
Taxes per acre - - - - -	.88	.74	.58	.69

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 6, 1939 (cont.)

Items	St. Clair	Monroe	Clinton, Fayette, & Washington
Rate earned on investment- - - - -	9.1%	8.0%	10.6%
Acres in farm- - - - -	194	240	190
Acres in crops - - - - -	132	120	122
Gross earnings per acre- - - - -	\$ 20.92	\$ 14.67	\$ 18.88
Total expenses per acre ^{2/} - - - - -	11.09	8.26	9.22
Net earnings per acre- - - - -	9.83	6.41	9.66
<u>Investments</u>			
Value of land per acre - - - - -	\$ 63	\$ 53	\$ 48
Value of improvements per acre - - - - -	18	9	14
Total investment per acre- - - - -	109	80	91
<u>Land Use</u>			
Percent of land-area tillable- - - - -	85.4	70.1	81.3
Percent of tillable land in:			
Corn - - - - -	19.5	16.8	21.2
Oats - - - - -	10.6	5.2	12.6
Wheat - - - - -	27.5	32.2	18.8
Soybeans - - - - -	1.9	--	3.5
Other crops- - - - -	12.5	13.0	9.3
Legume hay and pasture - - - - -	20.8	27.3	20.1
Non-legume hay and pasture- - - - -	7.2	5.5	14.5
<u>Crop Yields</u>			
Corn - - - - -	58.5	55.5	49.6
Oats - - - - -	33.9	31.0	31.6
Wheat- - - - -	27.3	24.6	23.1
<u>Livestock Factors</u>			
Value of feed fed to prod. L. S. - - - - -	\$1,254	\$1,011	\$1,407
Feed fed per acre to prod. L. S. - - - - -	6.46	4.22	7.41
Returns per acre from prod. L. S.- - - - -	12.19	7.40	12.41
Returns per \$100 worth of feed fed - - - - -	189	175	168
Returns per \$100 invested in cattle- - - - -	126	129	126
Poultry returns per hen - - - - -	2.76	2.88	1.80
Number of litters farrowed - - - - -	10.5	6.1	6.7
Number of pigs weaned per litter - - - - -	5.8	5.9	6.7
Returns per litter farrowed- - - - -	\$ 78	\$ 81	\$ 86
Average number of cows milked- - - - -	7.3	5.5	10.2
Dairy returns per cow milked - - - - -	\$ 102	\$ 98	\$ 110
<u>Expense Factors</u>			
Machinery cost per crop acre ^{1/} - - - - -	\$ 3.78	\$ 4.36	\$ 3.61
Horses and machinery cost per crop A. ^{1/} - - - - -	5.39	5.72	4.96
Labor cost per crop acre ^{2/} - - - - -	7.81	8.02	6.54
Labor cost per \$100 gross earnings ^{2/} - - - - -	25	27	22
Number of work horses- - - - -	5.2	3.9	3.8
Value of feed fed to horses- - - - -	\$ 221	\$ 131	\$ 149
Improvement cost per acre- - - - -	.89	.58	.77
Taxes per acre - - - - -	1.23	.75	.79

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Influence of Price Changes on Illinois Farm Incomes

All feed and grain, livestock, and other farm property on accounting farms must be valued at both the beginning and the end of the year. Prices at inventory time, therefore, have a marked influence on farm earnings. The influence is greatest where large stocks or supplies are on hand at inventory time; for example, a much larger supply of farm products was found on Illinois farms December 31, 1939, than a year earlier. In fact, grain and livestock inventories have been increasing on Illinois farms since the drouth of 1936 as a result of three years of exceptionally high crop yields and the influence of Agricultural Adjustment Programs which have caused farmers to grow more hay and pasture and to store corn on farms under seal. According to estimates made by the Bureau of Agricultural Economics, U.S.D.A., 356 million bushels of corn were on Illinois farms January 1, 1940, as compared with 325 million bushels January 1, 1939.

Livestock numbers on Illinois farms increased sharply in 1939 even though 62 million bushels of 1937 and 1938 corn were placed under seal at the end of the year and 83 million bushels of 1939 corn were sealed by March 31, 1940. The following data indicate the percentage increase in livestock numbers on 2520 accounting farms in Illinois from the beginning to the end of 1939; dairy cows, 2 percent; beef cows, 21 percent; feeder cattle, 17 percent; feeder lambs, 24 percent; brood sows, 4 percent; spring pigs, 38 percent; summer pigs, 23 percent; and fall pigs, 28 percent. Hog numbers have been increasing since 1935 and have now attained record levels; for example, 13.5 sows farrowed per farm on accounting farms in 1939 as contrasted with 9.2 sows farrowed per farm in 1938. The increase in beef cattle numbers is a part of the general up-swing taking place over the entire United States, and it may be expected to continue for several years.

These data indicate that supplies of both feed and livestock were greater at the time the 1939 closing inventory was taken than at any other inventory period in several years, and price changes, therefore, are important in interpreting farm earnings for the state and for farming-type areas in 1939.

Prices of important farm products.--Prices for all crops as well as for beef cattle and sheep were higher at the end of 1939 than they were at the beginning, whereas prices for horses, hogs, and poultry were lower. Most of these price increases occurred during the last four months of the year.

December 15, Illinois Farm Prices

	<u>1938</u>	<u>1939</u>	<u>Increase</u>	<u>Decrease</u>
Corn, bu.	\$.42	\$.47	\$.05	\$ --
Oats, bu.	.24	.35	.11	--
Wheat, bu.	.57	.88	.31	--
Soybeans, bu.	.65	.95	.30	--
Hay, tons	6.20	6.50	.30	--
Horses, hd.	88.00	85.00	--	3.00
Hogs, cwt.	7.00	5.10	--	1.90
Beef cattle, cwt.	7.70	8.30	.60	--
Sheep, cwt.	3.45	3.60	.15	--
Chickens, lb.	.13	.11	--	.02

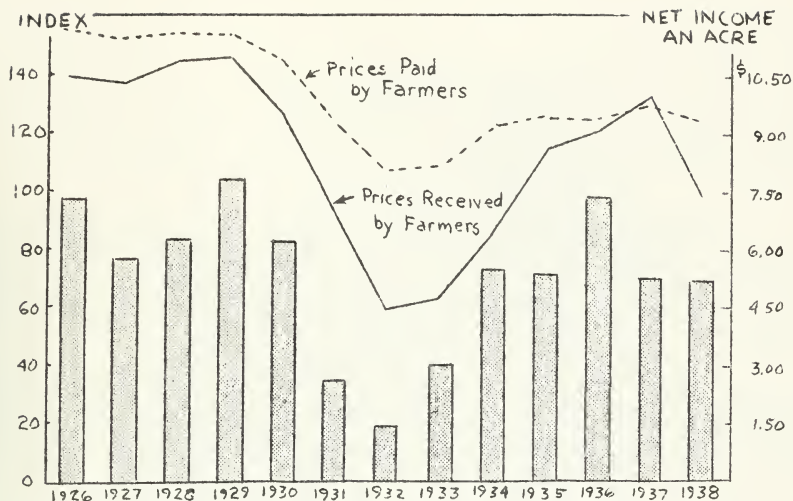


Fig. 1.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1938.

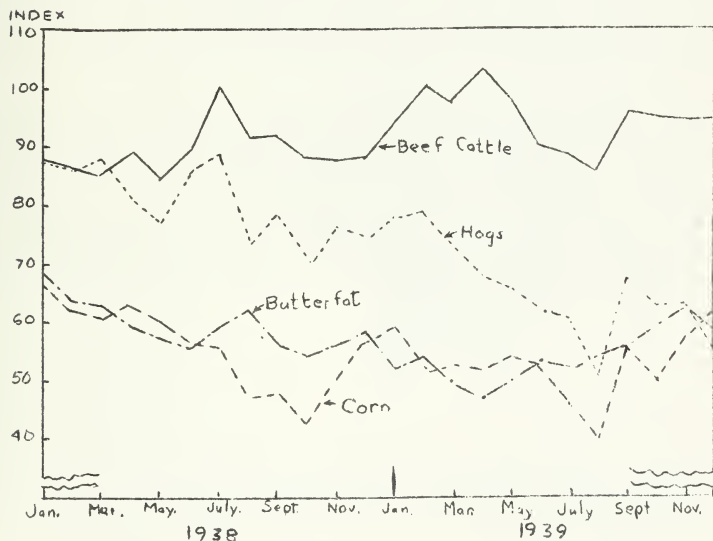


Fig. 2.--Monthly price indices of the average farm prices of corn, hogs, beef cattle, and butterfat, 1938 and 1939. (1924-1929 = 100)

Farm earnings are influenced by the average price received for farm products during the year as well as by the values at inventory time. Although nearly all commodities were higher in price at the end of the year than at the beginning, prices received for the following commodities averaged lower in 1939 than in 1938 by these amounts: corn, 2 cents per bushel; wheat and soybeans, 1 cent per bushel; hogs, \$1.50 per hundred; butterfat, 2 cents per pound; eggs, 3 cents per dozen; and chickens, 2 cents per pound. The prices for other commodities averaged higher in 1939 than in 1938 by the following amounts: oats, 4 cents per bushel; beef cattle, 50 cents per hundred; lambs, 42 cents per hundred; wool, 4 cents per pound; and apples, 12 cents per bushel.

Variation in earnings between the various type-of-farming areas is influenced by the relative prices of grains, livestock, and livestock products. In 1939 as in 1938 livestock had a price advantage over grain, but the advantage was not as marked as it was in 1938. The prices for meat animals dropped from 116 to 110 percent of the 1910-14 average, grains from 74 to 72 percent, chickens and eggs from 106 to 94 percent, and dairy products from 106 to 104 percent.

The corn-hog ratio also narrowed during the year to the disadvantage of the hog enterprise. The amount of corn equal in value to 100 pounds of hogs dropped from 19 bushels in February to 11 bushels in December (based on farm prices). Unfavorable feeding ratios will discourage expansion in hog numbers in 1940.

Crop Yields in Illinois, 1939

Crop yields in Illinois in 1939, as in 1938 and 1937, were unusually high. The weighted average yield of corn, oats, wheat, and soybeans was 133 percent of the 10-year average, 1929-1938. Corn contributed more than did any other crop to the high average yields. The yields of the various crops expressed in percentages of the 1929-1938 averages were: corn, 150; soybeans, 129; wheat, 121; and oats, 97.

Crop yields in all counties except Massac were above the 10-year average (1929-1938 = 100), but wide variations in yields occurred between individual counties and groups of counties. Four counties along the Ohio River had crop-yield indices under 105. In contrast to these counties, 31 were over 136. Many of the counties with the highest yields were in two groups, those located in southwestern and east north central Illinois. Crop-yield indices were adversely affected in southeastern Illinois by the wheat crop and in northern Illinois by low oat yields. Fifty-five counties, which were well-distributed over the state, had crop-yield indices from 121 to 135.

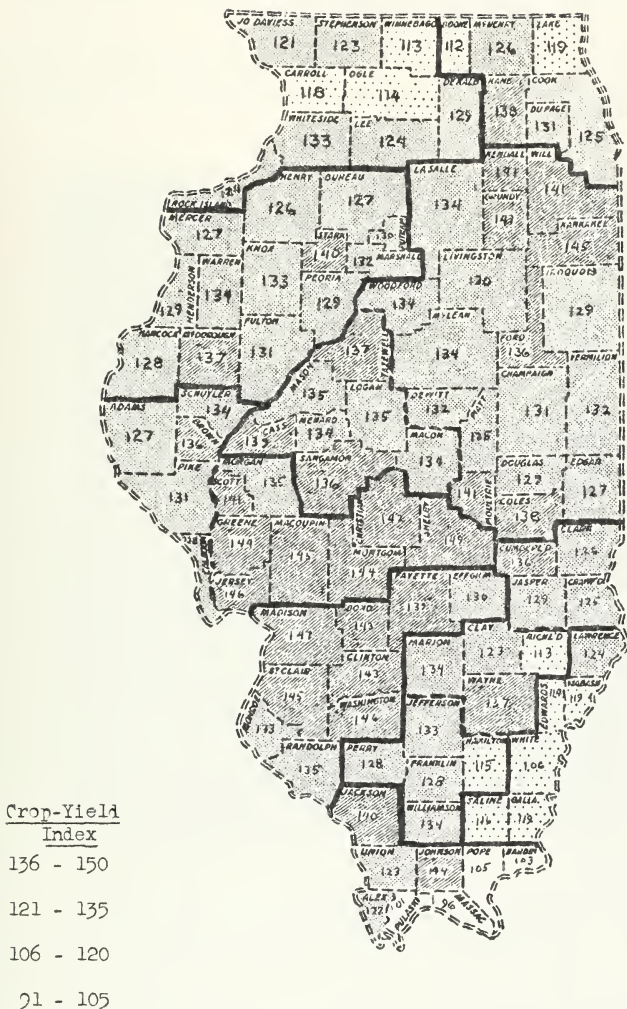


Fig. 3.--Crop yields for 1939, compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1939



FARMING-TYPE AREA SEVEN South Central Mixed Farming Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON ONE HUNDRED THREE FARMS IN FARMING-TYPE AREA 7, 1939

By P. E. Johnston, J. B. Cunningham, and E. N. Searls^{1/}

Farm earnings of accounting farms in Farming-Type Area 7 were higher in 1939 than in 1938. The net earnings per acre averaged \$4.30 in 1939, \$3.71 in 1938, \$3.48 in 1937, and \$4.97 in 1936. The items considered in calculating the net earnings included inventory changes, cash receipts, cash expenses, the value of the farm products used in the household (in 1938 and 1939 only), and unpaid family labor (Table 1).



Farming-Type Area 7

Mixed Farming

Since the value of farm products used in the household was not included in the records prior to 1938, the earnings for 1938 and 1939 are not strictly comparable to those for other years. The value per acre of farm products used was \$1.24 in 1938 and \$1.12 in 1939.

The accounting farms were larger than average, crop yields were above average, and the farms as a whole were operated with efficiency which was greater than average. Therefore, the figures contained in this report represent conditions which are better than average for this area. This fact is borne out by survey records taken in various areas of the state.

High crop yields and more livestock, accompanied by increased industrial activity and improved demand for farm products especially during the latter half of the year, were the principal factors producing higher earnings in 1939 (Figs. 1, 2, and 3).

^{1/} R. J. Mutti supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm accounts project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the farm advisers indicated:

W. L. Sidwell, Jefferson County

R. L. Ash, Clark County

R. E. Apple, Jasper County

Harold Allison, Crawford County

J. A. Embsier, Franklin-Hamilton Counties

F. J. Blackburn, Marion County

Dee Small, Williamson County

C. L. Beatty, Richland County

R. K. Wise, Clay County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 7, 1936-1939

Items	Your farm	Average of all farms in area			
		1939	1938	1937	1936
Number of farms- - - - -	--	103	96	62	83
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$	\$ 56	\$ 75	\$ 58	\$ 37
Livestock- - - - -		121	42	136	-39
Feed and grain - - - - -		138	-21	95	290
Machinery and equipment ^{1/} - - - - -		72	137	172	170
Automobile (farm share)- - - - -		20	-4	--	--
Totals - - - - -	\$	\$ 407	\$ 229	\$ 461	\$ 458
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$	\$ 2	\$ 3	\$ 7	\$ --
Horses - - - - -		65	73	51	54
Productive livestock: Cattle - - - - -		632	687	537	553
Dairy sales- - - - -		316	385	292	302
Hogs - - - - -		694	766	834	923
Sheep- - - - -		57	81	66	91
Poultry- - - - -		101	123	132	134
Egg sales- - - - -		207	244	284	278
Total productive livestock - - - - -	()	(2,007)	(2,186)	(2,145)	(2,281)
Feed and grain - - - - -		495	395	532	509
Machinery and equipment ^{1/} - - - - -		109	84	162	137
Automobile (farm share)- - - - -		27	15	--	--
Labor off farm - - - - -		39	32	78	76
Miscellaneous- - - - -		17	7	10	12
AAA payments - - - - -		179	134	122	77
Totals - - - - -	\$	\$2,940	\$2,929	\$3,107	\$3,146
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$	\$ 215	\$ 196	\$ 186	\$ 144
Horses - - - - -		49	30	38	42
Productive livestock: Cattle - - - - -		255	294	234	137
Hogs - - - - -		58	60	58	70
Sheep- - - - -		16	18	19	17
Poultry- - - - -		24	27	26	30
Total productive livestock - - - - -	()	(353)	(399)	(337)	(254)
Feed and grain - - - - -		335	348	548	570
Machinery and equipment ^{1/} - - - - -		474	481	569	506
Automobile (farm share)- - - - -		123	81	--	--
Hired labor- - - - -		160	172	172	149
Miscellaneous- - - - -		18	20	18	20
Crop expense - - - - -		84	93	190	126
Livestock expense- - - - -		28	28	19	22
Taxes- - - - -		132	144	121	115
Totals - - - - -	\$	\$1,971	\$1,992	\$2,198	\$1,948
<u>Summary</u>					
Cash balance - - - - -	\$	\$ 969	\$ 937	\$ 909	\$1,198
Farm products used in household ^{2/} - - - - -		254	268	--	--
Total inventory change - - - - -		407	229	461	458
Receipts less expenses - - - - -		1,630	1,434	1,370	1,656
Total unpaid labor - - - - -		654	632	640	642
Net earnings per farm- - - - -	\$	\$ 976	\$ 802	\$ 730	\$1,014
Net earnings per acre- - - - -	\$	\$ 4.30	\$ 3.71	\$ 3.48	\$ 4.97

^{1/} Includes farm share of automobile for 1936 and 1937.

^{2/} Not included as income for 1936 and 1937.

Inventory Changes, Cash Receipts, Cash Expenses, and Earnings

Inventory changes.--The year 1939 was the fourth consecutive year of increasing inventories, the increases averaging \$407 in 1939, \$229 in 1938, \$461 in 1937, and \$458 in 1936 (Table 1). The largest increases in 1939 were in feed and grain and in livestock. The increased value of feed and grain represented higher prices at the end of the year as well as larger quantities of grain on hand (Page 1 and Fig. 2). The average amounts of grain on hand in Area 7 at the two inventory periods follow:

	Beginning of year (bushels)	End of year (bushels)
Corn	1,140	1,260
Oats	147	180
Wheat	109	73
Soybeans	33	30

Cash receipts. Cash receipts averaged \$2,940 in 1939 and were about the same as in 1938 (Table 1). Feed and grain and AAA receipts were larger in 1939 than in 1938, but livestock sales were smaller. The larger AAA receipts were mainly due to a doubling-up in payments, many farmers receiving payments in 1939 for participation in both the 1938 and 1939 programs.

Cash expenses. Cash expenses were lower in 1939 than in either 1938 or 1937, but they were higher in 1939 than in 1936. Less money was spent for livestock, feed and grain, hired labor, crop expense, and taxes in 1939 than in 1938, but more was spent for farm improvements and horses.

Earnings. Cash receipts exceeded cash expenses in 1939 by \$969, or by a larger margin than that for any year since 1936. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The amounts deducted for operator's and family labor remained rather uniform during the 4-year period, a difference of only \$22 occurring between the low year, 1938, and the high year, 1939. The uniformity in valuation was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$40 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$976 in 1939 as contrasted with \$802 for 1938. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

TABLE 2.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 7, 1930

Items	Your farm	Average of all farms	Land area tillable	
			85 percent or more	Less than 85 percent
Number of farms - - - - -	--	103	54	49
<u>Capital Investments</u>				
Land - - - - -	\$ _____	\$ 7,681	\$ 6,673	\$ 8,793
Farm improvements - - - - -	_____	2,118	1,826	2,439
Horses - - - - -	_____	384	353	418
Productive livestock: Cattle - - - - -	_____	868	857	880
Hogs - - - - -	_____	319	266	378
Sheep - - - - -	_____	64	55	74
Poultry - - - - -	_____	127	120	134
Total productive livestock - - - - -	()	(1,378)	(1,298)	(1,466)
Feed and grain - - - - -	_____	1,048	997	1,105
Machinery and equipment - - - - -	_____	1,081	983	1,188
Automobile (farm share) - - - - -	_____	116	115	118
Totals - - - - -	\$ _____	\$13,806	\$12,245	\$15,527
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ _____	\$ 20	\$ 18	\$ 21
Productive livestock: Cattle - - - - -	_____	491	441	547
Dairy sales - - - - -	_____	316	415	208
Hogs - - - - -	_____	623	516	739
Sheep - - - - -	_____	53	40	67
Poultry - - - - -	_____	81	72	90
Egg sales - - - - -	_____	207	192	224
Total productive livestock - - - - -	()	(1,771)	(1,676)	(1,875)
Farm products used in household - - - - -	_____	254	241	268
Feed and grain - - - - -	_____	298	334	259
Labor off farm - - - - -	_____	39	38	40
Miscellaneous - - - - -	_____	17	12	23
AAA payments - - - - -	_____	179	190	167
Totals - - - - -	\$ _____	\$ 2,578	\$ 2,509	\$ 2,653
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ _____	\$ 157	\$ 155	\$ 159
Horses - - - - -	_____	--	--	--
Productive livestock - - - - -	_____	--	--	--
Feed and grain - - - - -	_____	--	--	--
Machinery and equipment - - - - -	_____	293	269	319
Automobile (farm share) - - - - -	_____	76	79	73
Hired labor - - - - -	_____	160	156	165
Miscellaneous - - - - -	_____	18	18	18
Crop expense - - - - -	_____	84	78	90
Livestock expense - - - - -	_____	28	29	27
Taxes - - - - -	_____	132	134	131
Totals - - - - -	\$ _____	\$ 948	\$ 918	\$ 982
Receipts less expenses - - - - -	\$ _____	\$ 1,630	\$ 1,591	\$ 1,671
Family labor - - - - -	_____	228	258	194
Returns for labor, capital, mgt. - - - - -	_____	1,402	1,333	1,477
Operator's labor - - - - -	_____	426	418	434
Returns for capital and mgt. - - - - -	_____	976	915	1,043
<u>Rate Earned on Investment</u> - - - - -	%	7.1%	7.5%	6.7%
Interest on investment - - - - -	\$ _____	\$ 691	\$ 612	\$ 776
Labor and Management Earnings - - - - -	_____	711	721	701
Nonfarm income - - - - -	\$ _____	\$ 176	\$ 173	\$ 180

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 7; for example, 13 farms earned less than 1 percent on the investment, with an average rate earned of -1.4 percent; but in contrast 14 farms earned 13 percent or more, with an average rate earned of 18.4 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$160 for labor and management earnings as contrasted with a gain of \$1788 for the latter group. By studying the reasons for these variations, farm operators can improve their chances of financial success. The variation in earnings and in size of farm for all records in the area was as follows:

<u>Rate earned on investment (percent)</u>	<u>Number of farms</u>	<u>Average rate earned (percent)</u>	<u>Acres per farm</u>	<u>Capital in- vested per farm</u>	<u>Gross earnings per farm</u>	<u>Net earnings per farm</u>	<u>Labor and management earnings</u>
Less than 1.0	13	-1.4	166	\$ 8,584	\$1,362	\$ -118	\$ -160
1.0 to 4.9	24	3.1	214	15,653	2,496	490	181
5.0 to 8.9	32	6.9	254	16,517	3,084	1,142	714
9.0 to 12.9	20	10.4	246	13,112	2,940	1,364	1,156
13.0 or more	14	18.4	216	10,285	3,500	1,890	1,788

Comparison of Farms According to Percent of Land Area Tillable

The 103 farms were divided into two groups according to the percent of land area tillable. Of this total number of farms, 54 had 85 percent or more of land area tillable, and 49 had less than 85 percent tillable. The average percent tillable was 91.3 for the former group and 73.5 for the latter group.

There was a tendency for the farms with the larger percent of land area tillable to have low-producing gray prairie soil and for the farms with the smaller percent of land area tillable to have rough land associated with small areas of high-producing bottomland.

This grouping of farms gives each farmer an opportunity to compare his farm with the average of other farms having a similar proportion of tillable land as well as with the average of all accounting farms (Tables 2 and 3).

The capital investment averaged \$12,245, or \$56 per acre, for the group of farms having the larger percent of land area tillable, as compared with a capital investment averaging \$15,527, or \$65 per acre, for the group of farms having the smaller percent of land area tillable.

The receipts and net increases were \$144 smaller and expenses and net decreases \$64 smaller on farms with the larger percent of land area tillable than on those with the smaller percent tillable. The livestock receipts were \$199 smaller for the farms with the larger percent of land area tillable, whereas the grain receipts were \$75 larger. The rate earned on investment was 7.5 percent and 6.7 percent, and the labor and management earnings were \$721 and \$701 respectively, for the two groups of farms.

TABLE 3.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 7, 1939

Items	Your farm	Average of all farms	Land area tillable	
			85 percent or more	Less than 85 percent
Rate earned on investment- - - - -	_____ %	7.1%	7.5%	6.7%
Acres in farm- - - - -	_____	227	217	238
Acres in crops - - - - -	_____	124	129	118
Gross earnings per acre- - - - -	\$ _____	\$ 11.36	\$ 11.58	\$ 11.12
Total expenses per acre ² - - - - -	_____	7.06	7.36	6.75
Net earnings per acre - - - - -	_____	4.30	4.22	4.37
<u>Investments</u>				
Value of land per acre - - - - -	\$ _____	\$ 34	\$ 31	\$ 37
Value of improvements per acre - - -	_____	9	8	10
Total investment per acre- - - - -	_____	61	57	65
<u>Land Use</u>				
Percent of land area tillable- - - -	_____	82.4	91.3	73.5
Percent of tillable land in:				
Corn - - - - -	_____	21.2	19.4	23.6
Oats - - - - -	_____	7.1	8.4	5.6
Wheat- - - - -	_____	9.0	7.6	10.8
Soybeans - - - - -	_____	2.1	1.8	2.5
Other crops- - - - -	_____	14.5	16.0	12.2
Legume hay and pasture - - - - -	_____	23.0	22.6	23.7
Nonlegume hay and pasture - - - - -	_____	23.1	24.2	21.6
<u>Crop Yields</u>				
Corn - - - - -	_____	40.9	37.6	44.2
Oats - - - - -	_____	22.3	23.4	19.8
Wheat- - - - -	_____	19.2	20.2	18.1
<u>Livestock Factors</u>				
Value of feed fed to prod. L. S. - -	\$ _____	\$ 1,164	\$ 1,081	\$ 1,256
Feed fed per acre to prod. L. S. - -	_____	5.13	4.99	5.27
Returns per acre from prod. L. S.- -	_____	8.59	8.53	8.65
Returns per \$100 worth of feed fed -	_____	168	171	164
Returns per \$100 invested in cattle-	_____	96	102	91
Poultry returns per hen- - - - -	_____	2.35	2.38	2.34
Number of litters farrowed - - - - -	_____	9.2	7.1	12.2
Number of pigs weaned per litter - -	_____	6.6	6.6	6.6
Returns per litter farrowed- - - - -	\$ _____	\$ 79	\$ 83	\$ 75
Average number of cows milked- - -	_____	5.5	6.4	4.6
Dairy returns per cow milked - - - -	\$ _____	\$ 71	\$ 76	\$ 63
<u>Expense Factors</u>				
Machinery cost per crop acre ¹ / - - -	\$ _____	\$ 2.98	\$ 2.69	\$ 3.32
Horse and machinery cost per crop A.	_____	3.68	3.34	4.09
Labor cost per crop acre ² / - - - -	_____	6.26	6.15	6.38
Labor cost per \$100 gross earnings ² /	_____	30	32	28
Number of work horses- - - - -	_____	3.4	3.3	3.6
Value of feed fed to horses- - - - -	\$ _____	\$ 106	\$ 101	\$ 112
Improvement cost per acre- - - - -	_____	.69	.72	.67
Taxes per acre - - - - -	_____	.58	.62	.55

¹/ Includes farm share of automobile.

²/ Includes operator's and family labor.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS,
FARMS WITH MORE THAN 85 PERCENT OF THE LAND AREA TILLABLE

Accounting Farms in Farming-Type Area 7, 1939

The numbers above the lines across the middle of the page are the averages for the 54 farms included in this group for the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings									Total expense per acre	Factors that affect expenses		
			Percent tillable land in legume hay and pasture	Crop yields			Feed fed per acre to prod. L. S.	Returns per \$100 feed fed	Poultry returns per hen	Hog returns per litter farrowed	Dairy returns per cow milked		Horse and machinery cost per crop acre	Labor cost per crop acre	Labor cost per \$100 gross earnings
				Corn, bu.	Oats, bu.	Wheat, bu.									
17	317	22	38	58	38	30	10	221	3.88	133	126	2	.75	2.50	17
15	297	20	35	54	35	28	9	211	3.58	123	116	3	1.25	3.25	20
13	277	18	32	50	32	26	8	201	3.28	113	106	4	1.75	4.00	23
11	257	16	29	46	29	24	7	191	2.98	103	96	5	2.25	4.75	26
9	237	14	26	42	26	22	6	181	2.68	93	86	6	2.75	5.50	29
7.5	217	11.58	22.6	37.6	23.4	20.2	4.99	171	2.38	83	76	7.36	3.34	6.15	32
5	197	10	20	34	20	18	4	161	2.08	73	66	8	3.75	7.00	35
3	177	8	17	30	17	16	3	151	1.78	63	56	9	4.25	7.75	38
1	157	6	14	26	14	14	2	141	1.48	53	46	10	4.75	8.50	41
-1	137	4	11	22	11	12	1	131	1.18	43	36	11	5.25	9.25	44
-3	117	2	8	18	8	10	0	121	.88	33	26	12	5.75	10.00	47

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 7, 1939

Items	Source of income			
	Grain 40% +	Hogs 40% +	General farms	
			L.S. 60% -	L.S. 60% +
Number of farms - - - - -	10	14	38	41
Percent income from prod. L.S. - - - - -	35.5	87.8	46.7	81.9
Percent income from crops - - - - -	50.6	--	27.7	--
<u>Investments</u>				
Total per farm - - - - -	\$15277	\$16832	\$10891	\$15116
Total per acre - - - - -	54	70	50	69
Land per acre - - - - -	36	39	29	36
Improvements per acre - - - - -	6	11	7	12
Machinery per acre ¹ - - - - -	4.91	6.23	3.76	6.42
<u>Earnings</u>				
Per farm				
Gross earnings - - - - -	\$3,199	\$2,965	\$2,264	\$2,810
Gross expenses ² - - - - -	1,511	1,983	1,367	1,937
Net earnings - - - - -	1,688	982	897	873
Per acre				
Gross earnings - - - - -	\$ 11.25	\$ 12.33	\$ 10.44	\$ 12.90
Gross expenses ² - - - - -	5.31	8.25	6.30	8.89
Net earnings - - - - -	5.94	4.08	4.14	4.01
Rate earned on investment - - - - -	11.0%	5.8%	8.2%	5.8%
Labor and mgt. earnings - - - - -	\$1,372	\$ 594	\$ 779	\$ 527
<u>Size and Intensity</u>				
Acres per farm - - - - -	284	240	217	218
Percent land area tillable - - - - -	86.0	75.7	82.6	83.6
Percent tillable land in grain - - - - -	50.6	48.0	39.0	38.2
Percent in hay and pasture - - - - -	27.7	44.3	46.9	52.1
Feed fed per acre to prod. L.S. - - - - -	\$ 2.74	\$ 7.33	\$ 3.14	\$ 6.89
Months of labor per 100 crop A. - - - - -	10.0	16.8	14.0	19.3
Total months of labor - - - - -	17.0	19.6	18.1	21.3
<u>Crop Yields Per Acre</u>				
Corn, bu. - - - - -	47.8	39.1	37.6	41.8
Wheat, bu. - - - - -	21.1	15.8	19.8	19.4
<u>Livestock Returns</u>				
Per \$100 feed fed - - - - -	\$ 170	\$ 158	\$ 181	\$ 166
Hog returns per litter - - - - -	75	81	74	81
Dairy returns per cow - - - - -	55	75	57	81
<u>Expense Factors</u>				
Labor cost ² - - - - -				
Per crop acre - - - - -	\$ 4.08	\$ 6.60	\$ 5.53	\$ 7.75
Per \$100 gross earnings - - - - -	22	26	32	30
Horse and machinery cost per crop acre ¹ - - - - -	3.10	4.05	3.08	4.41
Improvement cost per acre - - - - -	.35	.74	.40	1.06
Land tax per acre - - - - -	.47	.59	.47	.54

¹/ Includes farm share of automobile.

²/ Includes operator's and family labor.

The farms with the larger percent of land area tillable were 21 acres smaller; yet they had 11 acres more land in crops than did those farms with the smaller percent of land area tillable. Oat and wheat yields were higher but corn yields were lower on the farms with the higher percent tillable than on those with the lower percent tillable. In this farming-type area the flat prairie land, a large percent of which is tillable, is often low in productivity.

The operating expenses per acre averaged \$7.36 on the farms with the most tillable land and \$6.75 on the farms with the least tillable land. The combined cost per crop acre for labor, machinery, and horses was \$.98 smaller on the farms with the larger percent of tillable land, but the combined cost per acre for improvements and taxes was \$.12 larger.

The livestock-efficiency factors, such as poultry returns per hen, hog returns per litter of pigs farrowed, and dairy returns per cow milked, were not appreciably affected by the percent of land area tillable. These factors indicate that the livestock on the two groups of farms was managed with nearly the same degree of efficiency.

Source of Income

The 103 farms were divided into 4 groups according to source of income (Table 4). The items in this table, for the most part, were made to correspond with the items given in Table 3; therefore, a farmer may compare the data in the "Your farm" column of Table 3 with the "Source of income" column in Table 4, which corresponds to the classification for his own farm.

In a comparison of the groups of farms the fact that conditions affecting production and price relationships vary from year to year should be kept in mind. Therefore, the average differences in earnings in 1939 are not necessarily typical of the variations that may be expected over a long period of years. The following items, for example, indicate that generally the grain farms were located on the better land: large percent of land area tillable, large percent of land in grain, and high yield of corn and wheat per acre.

The returns per \$100 feed that are necessary to pay for feed (including pasture) and other costs, according to 5-year averages of complete cost studies (1933-1937), are as follows: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117. There is little wonder, therefore, that the 4 groups of accounting farms with different classes and proportions of livestock varied widely in their returns per \$100 worth of feed fed. The amount of feed fed per acre to productive livestock averaged \$7.33 on the hog farms but only \$2.74 on the grain farms.

Differences in expenses are significant for the 4 groups of farms. Labor input was highest on the general farms with the most livestock, where 21.3 months of labor were used, and lowest on the grain farms, where 17.0 months of labor were used; horse and machinery cost per crop acre averaged \$4.41 on the general farms with the most livestock, \$4.05 on the hog farms, and only \$3.10 on the grain farms; improvement costs per acre ranged from \$1.06 on the general farms with the most livestock to \$.35 on the grain farms; and land taxes ranged from \$.47 on the grain farms to \$.59 on the hog farms.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 7, 1939

Items	Total acres in farm		
	61 to 180	181 to 300	301 or more
Number of farms - - - - -	36	49	18
Acres per farm - - - - -	125	240	396
<u>Investments</u>			
Total per farm - - - - -	\$ 8,075	\$14,394	\$23,668
Total per acre - - - - -	64	60	60
Land per acre - - - - -	33	34	34
Improvements per acre - - - - -	11	9	8
Machinery per acre ^{1/} - - - - -	5.64	4.90	5.65
<u>Earnings</u>			
Per farm			
Gross earnings - - - - -	\$ 1,668	\$ 2,617	\$ 4,292
Gross expenses ^{2/} - - - - -	1,147	1,667	2,338
Net earnings - - - - -	521	950	1,954
Per acre			
Gross earnings - - - - -	\$ 13.30	\$ 10.92	\$ 10.84
Gross expenses ^{2/} - - - - -	9.15	6.96	5.90
Net earnings - - - - -	4.15	3.96	4.94
Rate earned on investment - - - - -	6.5%	6.6%	8.3%
Labor and management earnings - - - - -	\$ 511	\$ 667	\$ 1,233
<u>Size and Intensity</u>			
Percent land area tillable - - - - -	85.4	81.2	82.5
Percent tillable land in grain - - - - -	38.4	42.0	42.3
Percent in hay and pasture - - - - -	51.8	44.0	45.9
Feed fed per acre to prod. L. S. - - - - -	\$ 5.99	\$ 5.12	\$ 4.59
Percent of income from prod. L. S. - - - - -	76.0	68.6	63.1
Percent of income from grain - - - - -	--	10.7	22.0
Months of labor per 100 crop acres - - - - -	227	15.2	12.2
Total months of labor - - - - -	15.4	20.1	26.2
<u>Crop Yields Per Acre</u>			
Corn, bu. - - - - -	39.0	38.8	45.8
Wheat, bu. - - - - -	16.8	19.2	20.2
<u>Livestock Returns</u>			
Per \$100 feed fed - - - - -	\$ 192	\$ 160	\$ 161
Hog returns per litter - - - - -	82	78	77
Dairy returns per cow - - - - -	78	67	66
<u>Expense Factors</u>			
Labor cost per crop acre ^{2/} - - - - -	\$ 9.09	\$ 6.04	\$ 4.85
Labor cost per \$100 gross earnings - - - - -	37	30	24
Horse and machinery cost per crop A. ^{1/} - - - - -	4.56	3.59	3.26
Improvement cost per acre - - - - -	.90	.68	.57
Land tax per acre - - - - -	.59	.53	.46

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Size of Farm as Related to Earnings

The farm records in Farming-Type Area 7, when sorted according to the total acres in the farm, indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller farms. The operators on the larger farms took in more money during the year than did the operators on the smaller farms; and after deductions were made for farm business expenditures and interest on the investment, the 18 largest farms had labor and management earnings which averaged \$1,233 as contrasted with \$511 for the 36 smallest farms. The earnings, as measured by the rate earned on the investment, were 8.3 and 6.5, respectively, for the two groups of farms. In years when the average rate earned on investment for groups of farms exceeds the capitalization rate (5 percent), the average labor and management earnings are higher on the larger farms than on the smaller ones, but these earnings are lower when the rate earned averages less than the capitalization rate.

The smaller farms were operated more intensively than were the larger farms. This variation was indicated by the much higher gross earnings per acre, and by the larger amount of feed fed per acre to productive livestock.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and the source of farm income (Tables 6 and 7).

In this report an average was calculated for each county from which 30 or more records were received. Averages were made in some instances with less than 30 records if it was necessary to eliminate some records because they were incomplete or not typical for the area. In any tabulation containing as few as 30 records, part of the variation from county to county is due to the fact that the averages do not represent a cross section of the county.

The tabulations by counties and by groups of counties may be used by extension specialists, farm advisers, and county program-building committees to represent the type of farm organization and the level of operating efficiency attained by a selected group of progressive farmers in the various parts of a farming-type area. Since the personnel of the accounting group changes slowly, comparisons may be made from county to county and from year to year even though these records are from farms with efficiency which is higher than average.

TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 7, 1939

Items	Jefferson	Clark, Jasper, and Crawford	Marion, Franklin, Hamilton, Richland, Williamson, and Clay
Number of farms - - - - -	25	36	42
<u>Capital Investments</u>			
Land - - - - -	\$ 5,506	\$11,257	\$ 5,911
Farm improvements - - - - -	1,513	2,855	1,845
Horses - - - - -	431	353	383
Productive livestock: Cattle - - - - -	583	1,110	830
Hogs - - - - -	223	504	218
Sheep - - - - -	73	58	63
Poultry - - - - -	129	150	107
<u>Total productive livestock - - - - -</u>	<u>(1,008)</u>	<u>(1,822)</u>	<u>(1,218)</u>
Feed and grain - - - - -	873	1,300	937
Machinery and equipment - - - - -	783	1,406	979
Automobile (farm share) - - - - -	104	156	89
<u>Totals - - - - -</u>	<u>\$10,218</u>	<u>\$19,149</u>	<u>\$11,362</u>
<u>Receipts and Net Increases</u>			
Horses - - - - -	\$ 21	\$ --	\$ 44
Productive livestock: Cattle - - - - -	278	702	438
Dairy sales - - - - -	266	252	401
Hogs - - - - -	451	944	448
Sheep - - - - -	60	48	53
Poultry - - - - -	72	120	52
Egg sales - - - - -	180	276	164
<u>Total productive livestock - - - - -</u>	<u>(1,307)</u>	<u>(2,342)</u>	<u>(1,556)</u>
Farm products used in household - - - - -	270	255	243
Feed and grain - - - - -	227	435	223
Labor off farm - - - - -	22	33	54
Miscellaneous - - - - -	9	18	21
AAA payments - - - - -	173	194	171
<u>Totals - - - - -</u>	<u>\$ 2,029</u>	<u>\$ 3,277</u>	<u>\$ 2,312</u>
<u>Expenses and Net Decreases</u>			
Farm improvements - - - - -	\$ 129	\$ 172	\$ 160
Horses - - - - -	--	10	--
Productive livestock - - - - -	--	--	--
Feed and grain - - - - -	--	--	--
Machinery and equipment - - - - -	222	366	273
Automobile (farm share) - - - - -	56	86	79
Hired labor - - - - -	109	261	104
Miscellaneous - - - - -	18	26	11
Crop expense - - - - -	72	107	71
Livestock expense - - - - -	16	47	18
Taxes - - - - -	95	181	113
<u>Totals - - - - -</u>	<u>\$ 717</u>	<u>\$ 1,256</u>	<u>\$ 829</u>
<u>Receipts less expenses - - - - -</u>	<u>\$ 1,312</u>	<u>\$ 2,021</u>	<u>\$ 1,483</u>
Family labor - - - - -	183	192	265
Returns for labor, capital, mgt. - - - - -	1,129	1,829	1,198
Operator's labor - - - - -	439	435	411
Returns for capital and mgt. - - - - -	690	1,394	787
<u>Rate Earned on Investment - - - - -</u>	<u>6.8%</u>	<u>7.3%</u>	<u>6.9%</u>
Interest on investment - - - - -	\$ 511	\$ 958	\$ 568
<u>Labor and Management Earnings - - - - -</u>	<u>618</u>	<u>871</u>	<u>630</u>
<u>Nonfarm income - - - - -</u>	<u>\$ 75</u>	<u>\$ 63</u>	<u>\$ 333</u>

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 7, 1939

Items	Jefferson	Clark, Jasper, and Crawford	Marion, Franklin, Hamilton, Richland, Williamson, and Clay
Rate earned on investment- - - - -	6.8%	7.3%	6.9%
Acres in farm- - - - -	192	258	221
Acres in crops - - - - -	102	138	125
Gross earnings per acre- - - - -	\$ 10.58	\$ 12.70	\$ 10.44
Total expenses per acre ^{2/} - - - - -	6.98	7.30	6.88
Net earnings per acre- - - - -	3.60	5.40	3.56
<u>Investments</u>			
Value of land per acre - - - - -	\$ 29	\$ 44	\$ 27
Value of improvements per acre - - -	8	11	8
Total investment per acre- - - - -	53	74	51
<u>Land Use</u>			
Percent of land area tillable- - - -	83.4	80.3	83.9
Percent of tillable land in:			
Corn - - - - -	19.4	25.3	18.3
Oats - - - - -	6.8	6.8	7.7
Wheat - - - - -	10.5	10.5	6.9
Soybeans - - - - -	1.0	2.7	2.1
Other crops- - - - -	9.1	15.0	16.5
Legume hay and pasture - - - - -	27.4	20.8	23.0
Nonlegume hay and pasture- - - - -	25.8	18.9	25.5
<u>Crop Yields</u>			
Corn - - - - -	34.6	50.6	31.0
Oats - - - - -	23.9	20.9	22.6
Wheat - - - - -	21.1	18.3	18.8
Soybeans - - - - -	6.9	22.5	9.0
<u>Livestock Factors</u>			
Value of feed fed to prod. L. S. - -	\$942	\$1,564	\$954
Feed fed per acre to prod. L. S. - -	4.91	6.06	4.31
Returns per acre from prod. L. S. - -	7.79	9.80	7.80
Returns per \$100 worth of feed fed -	159	162	181
Returns per \$100 invested in cattle-	105	87	104
Poultry returns per hen - - - - -	2.19	2.52	2.28
Number of litters farrowed - - - - -	7.0	12.2	6.4
Number of pigs weaned per litter - -	6.7	6.6	6.6
Returns per litter farrowed- - - - -	\$ 73	\$ 77	\$ 89
Average number of cows milked- - - -	5.7	4.9	6.0
Dairy returns per cow milked - - - -	\$ 60	\$ 68	\$ 78
<u>Expense Factors</u>			
Machinery cost per crop acre ^{1/} - - -	\$ 2.73	\$ 3.27	\$ 2.83
Horses and machinery cost per crop A. ^{1/} - - - - -	3.72	4.04	3.32
Labor cost per crop acre ^{2/} - - - - -	6.95	6.19	6.20
Labor cost per \$100 gross earnings ^{2/}	35	26	33
Number of work horses- - - - -	3.4	3.4	3.5
Value of feed fed to horses- - - - -	\$122	\$ 96	\$106
Improvement cost per acre- - - - -	.67	.67	.72
Taxes per acre - - - - -	.50	.70	.51

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Influence of Price Changes on Illinois Farm Incomes

All feed and grain, livestock, and other farm property on accounting farms must be valued at both the beginning and the end of the year. Prices at inventory time, therefore, have a marked influence on farm earnings. The influence is greatest where large stocks or supplies are on hand at inventory time; for example, a much larger supply of farm products was found on Illinois farms December 31, 1939, than a year earlier. In fact, grain and livestock inventories have been increasing on Illinois farms since the drouth of 1936 as a result of three years of exceptionally high crop yields and the influence of Agricultural Adjustment Programs which have caused farmers to grow more hay and pasture and to store corn on farms under seal. According to estimates made by the Bureau of Agricultural Economics, U.S.D.A., 356 million bushels of corn were on Illinois farms January 1, 1940, as compared with 325 million bushels January 1, 1939.

Livestock numbers on Illinois farms increased sharply in 1939 even though 62 million bushels of 1937 and 1938 corn were placed under seal at the end of the year and 83 million bushels of 1939 corn were sealed by March 31, 1940. The following data indicate the percentage increase in livestock numbers on 2520 accounting farms in Illinois from the beginning to the end of 1939: dairy cows, 2 percent; beef cows, 21 percent; feeder cattle, 17 percent; feeder lambs, 24 percent; brood sows, 4 percent; spring pigs, 38 percent; summer pigs, 23 percent; and fall pigs, 28 percent. Hog numbers have been increasing since 1935 and have now attained record levels; for example, 13.5 sows farrowed per farm on accounting farms in 1939 as contrasted with 9.9 sows farrowed per farm in 1938. The increase in beef cattle numbers is a part of the general up-swing taking place over the entire United States, and it may be expected to continue for several years.

These data indicate that supplies of both feed and livestock were great at the time the 1939 closing inventory was taken than at any other inventory period in several years, and price changes, therefore, are important in interpreting farm earnings for the state and for farming-type areas in 1939.

Prices of important farm products.--Prices for all crops as well as for beef cattle and sheep were higher at the end of 1939 than they were at the beginning, whereas prices for horses, hogs, and poultry were lower. Most of these price increases occurred during the last four months of the year.

December 15, Illinois Farm Prices

	<u>1938</u>	<u>1939</u>	<u>Increase</u>	<u>Decrease</u>
Corn, bu.	\$.42	\$.47	\$.05	\$ --
Oats, bu.	.24	.35	.11	--
Wheat, bu.	.57	.88	.31	--
Soybeans, bu.	.65	.95	.30	--
Hay, tons	6.20	6.50	.30	--
Horses, hd.	88.00	85.00	--	3.00
Hogs, cwt.	7.00	5.10	--	1.90
Beef cattle, cwt.	7.70	8.30	.60	--
Sheep, cwt.	3.45	3.60	.15	--
Chickens, lb.	.13	.11	--	.02

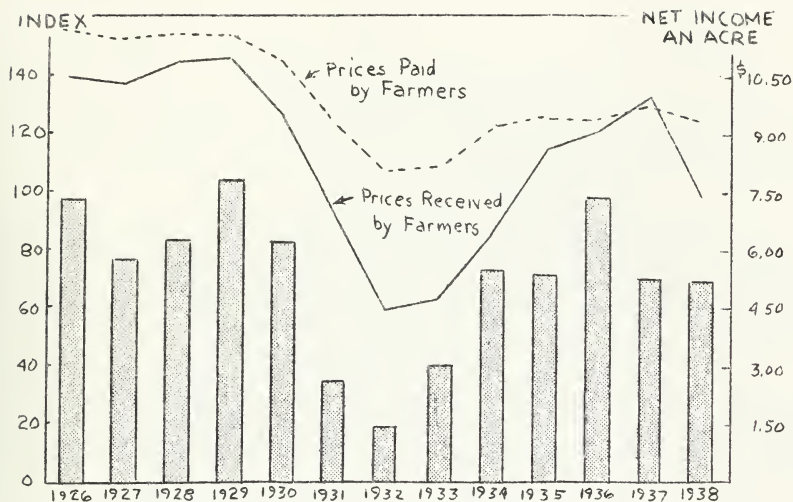


Fig. 1.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1938.

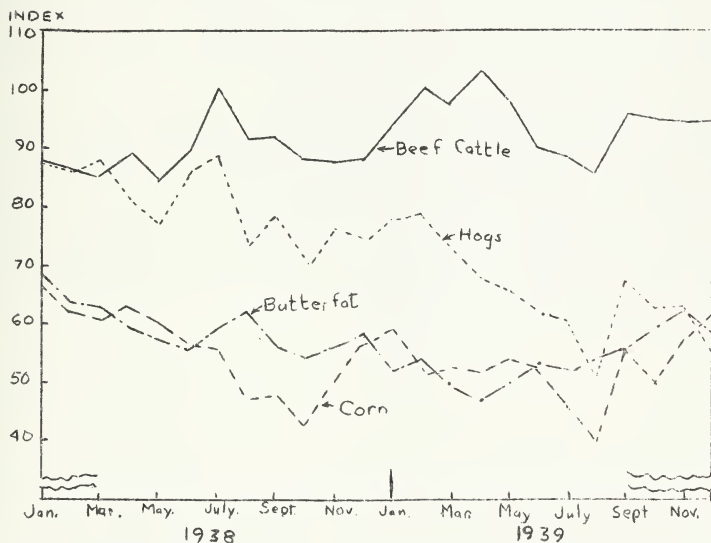


Fig. 2.--Monthly price indices of the average farm prices of corn, hogs, beef cattle, and butterfat, 1938 and 1939. (1924-1929 = 100)

Farm earnings are influenced by the average price received for farm products during the year as well as by the values at inventory time. Although nearly all commodities were higher in price at the end of the year than at the beginning, prices received for the following commodities averaged lower in 1939 than in 1938 by these amounts: corn, 2 cents per bushel; wheat and soybeans, 1 cent per bushel; hogs, \$1.50 per hundred; butterfat, 2 cents per pound; eggs, 3 cents per dozen; and chickens, 2 cents per pound. The prices for other commodities averaged higher in 1939 than in 1938 by the following amounts: oats, 4 cents per bushel; beef cattle, 50 cents per hundred; lambs, 42 cents per hundred; wool, 4 cents per pound; and apples, 12 cents per bushel.

Variation in earnings between the various type-of-farming areas is influenced by the relative prices of grains, livestock, and livestock products. In 1939 as in 1938 livestock had a price advantage over grain, but the advantage was not as marked as it was in 1938. The prices for meat animals dropped from 116 to 110 percent of the 1910-14 average, grains from 74 to 72 percent, chickens and eggs from 106 to 74 percent, and dairy products from 106 to 104 percent.

The corn-hog ratio also narrowed during the year to the disadvantage of the hog enterprise. The amount of corn equal in value to 100 pounds of hogs dropped from 19 bushels in February to 11 bushels in December (based on farm prices). Unfavorable feeding ratios will discourage expansion in hog numbers in 1940.

Crop Yields in Illinois, 1939

Crop yields in Illinois in 1939, as in 1938 and 1937, were unusually high. The weighted average yield of corn, oats, wheat, and soybeans was 133 percent of the 10-year average, 1929-1938. Corn contributed more than did any other crop to the high average yields. The yields of the various crops expressed in percentages of the 1929-1938 averages were: corn, 150; soybeans, 129; wheat, 121; and oats, 97.

Crop yields in all counties except Massac were above the 10-year average (1929-1938 = 100), but wide variations in yields occurred between individual counties and groups of counties. Four counties along the Ohio River had crop-yield indices under 105. In contrast to these counties, 31 were over 136. Many of the counties with the highest yields were in two groups, those located in southwestern and east north central Illinois. Crop-yield indices were adversely affected in southeastern Illinois by the wheat crop and in northern Illinois by low oat yields. Fifty-five counties, which were well-distributed over the state, had crop-yield indices from 121 to 135.

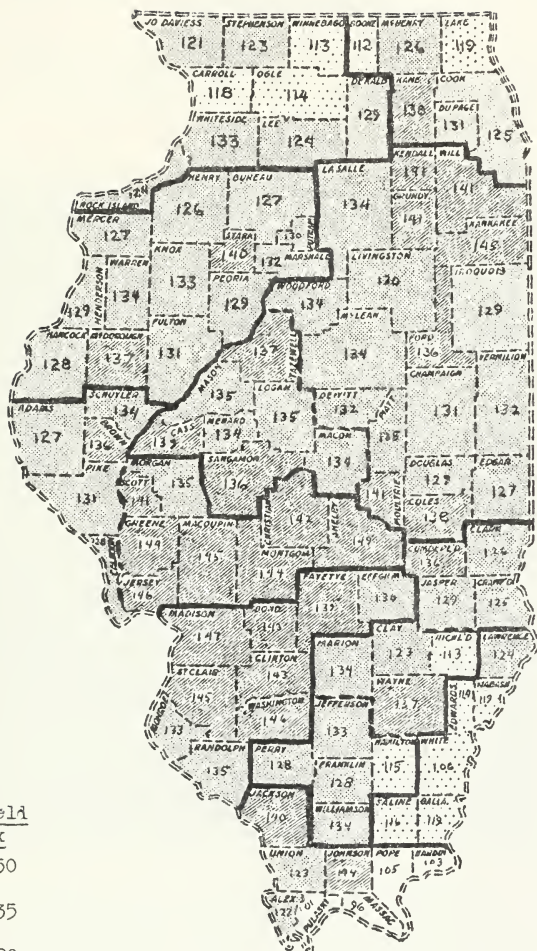


Fig. 3.--Crop yields for 1939, compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1939



FARMING-TYPE AREA EIGHT Wabash Valley Grain and Livestock Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON SIXTY-THREE FARMS IN FARMING-TYPE AREA 8, 1939

By P. E. Johnston, J. B. Cunningham, and E. N. Searls^{1/}

Farm earnings of accounting farms in Farming-Type Area 8 were higher in 1939 than in 1938. The net earnings per acre averaged \$6.14 in 1939, \$4.55 in 1938, \$6.12 in 1937, and \$7.47 in 1936. The items considered in calculating the net earnings included inventory changes, cash receipts, cash expenses, the value of the farm products used in the household (in 1938 and 1939 only), and unpaid family labor (Table 1).



Farming-Type Area 8
Grain and Livestock

Since the value of farm products used in the household was not included in the records prior to 1938, the earnings for 1938 and 1939 are not strictly comparable to those for other years. The value per acre of farm products used was \$1.24 in 1938 and \$1.10 in 1939.

The accounting farms were larger than average, crop yields were above average, and the farms as a whole were operated with efficiency which was greater than average. Therefore, the figures contained in this report represent conditions which are better than average for this area. This fact is borne out by survey records taken in various areas of the state.

Moderately high crop yields and larger AAA receipts, accompanied by increased industrial activity and improved demand for farm products, especially during the latter half of the year, were the principal factors producing higher earnings in 1939 (Figs. 1, 2, and 3).

^{1/} R. J. Mutti supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm accounts project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the farm advisers indicated:

W. D. Murphy, Edwards County
Thurman Wright, White County
E. C. Wheeler, Lawrence County

M. H. Lett, Wabash County
R. H. Roll, Gallatin County
M. C. Neville, Saline County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 8, 1936-1939

Items	Your farm	Average of all farms in area			
		1939	1938	1937	1936
Number of farms- - - - -	--	63	69	43	34
Inventory Changes					
Farm improvements- - - - -	\$	\$ 47	\$ 26	\$ 52	\$ 39
Livestock- - - - -		136	129	82	46
Feed and grain - - - - -		-43	-97	171	365
Machinery and equipment ^{1/} - - - - -		42	84	152	170
Automobile (farm share)- - - - -		3	-2	--	--
Totals - - - - -	\$	\$ 185	\$ 140	\$ 457	\$ 620
Cash Receipts					
Farm improvements- - - - -	\$	\$ 4	\$ 14	\$ 7	\$ 2
Horses - - - - -		50	39	65	49
Productive livestock: Cattle - - - - -		558	572	660	556
Dairy sales- - - - -		149	199	225	272
Hogs - - - - -		681	778	767	807
Sheep- - - - -		65	54	106	61
Poultry- - - - -		83	82	76	88
Egg sales- - - - -		195	186	278	271
Total productive livestock - - - - -	()	(1,731)	(1,871)	(2,112)	(2,055)
Feed and grain - - - - -		1,111	826	1,331	1,054
Machinery and equipment ^{1/} - - - - -		132	118	168	69
Automobile (farm share)- - - - -		34	21	--	--
Labor off farm - - - - -		31	32	74	68
Miscellaneous- - - - -		13	2	19	3
AAA payments - - - - -		338	85	174	149
Totals - - - - -	\$	\$3,444	\$3,008	\$3,950	\$3,449
Cash Expenses					
Farm improvements- - - - -	\$	\$ 164	\$ 177	\$ 191	\$ 132
Horses - - - - -		27	28	46	63
Productive livestock: Cattle - - - - -		330	288	223	166
Hogs - - - - -		68	61	42	69
Sheep- - - - -		19	3	31	8
Poultry- - - - -		26	24	24	37
Total productive livestock - - - - -	()	(443)	(376)	(320)	(280)
Feed and grain - - - - -		264	252	572	554
Machinery and equipment ^{1/} - - - - -		466	496	573	458
Automobile (farm share)- - - - -		119	100	--	--
Hired labor- - - - -		172	210	291	201
Miscellaneous- - - - -		20	20	21	23
Crop expense - - - - -		96	107	240	153
Livestock expense- - - - -		22	23	21	20
Taxes- - - - -		181	171	181	158
Totals - - - - -	\$	\$1,974	\$1,960	\$2,456	\$2,042
Summary					
Cash balance - - - - -	\$	\$1,470	\$1,048	\$1,494	\$1,407
Farm products used in household ^{2/} - - - - -		239	252	--	--
Total inventory change - - - - -		185	140	457	620
Receipts less expenses - - - - -		1,894	1,440	1,951	2,027
Total unpaid labor - - - - -		558	512	557	517
Net earnings per farm- - - - -	\$	\$1,336	\$ 928	\$1,394	\$1,510
Net earnings per acre- - - - -	\$	\$ 6.14	4.55	6.12	7.47

^{1/} Includes farm share of automobile for 1936 and 1937.

^{2/} Not included as income for 1936 and 1937.

Inventory Changes, Cash Receipts, Cash Expenses, and Earnings

Inventory changes.--The year 1939 was the fourth consecutive year of increasing inventories, the increases averaging \$185 in 1939, \$140 in 1938, \$457 in 1937, and \$620 in 1936 (Table 1). The largest increase in 1939 was in live-stock; feed and grain, on the other hand, decreased in value despite higher prices at the end of the year as compared with those at the beginning (page i). The average amounts of grain on hand in Area 8 at the two inventory periods follow:

	Beginning of year (bushels)	End of year (bushels)
Corn	1467	1172
Oats	135	150
Wheat	100	66
Soybeans	67	57

Cash receipts.--Cash receipts averaged \$3,444 in 1939 (Table 1). Feed and grain and AAA receipts were larger in 1939 than in 1938, but total productive livestock sales were smaller. The larger AAA receipts were mainly due to a doubling-up in payments, many farmers receiving payments in 1939 for participation in both the 1938 and 1939 programs.

Cash expenses.--Cash expenses were slightly larger in 1939 than in 1938, but they were smaller in 1939 than in either 1937 or 1936. Less money was spent for total productive livestock, machinery, and labor in 1939 than in 1938, although slightly more was spent for feed and grain, automobile, and taxes.

Earnings. Cash receipts exceeded cash expenses in 1939 by \$1,470, or by a larger margin than that for any other year during the past four years except 1937. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The amounts deducted for operator's and family labor remained rather uniform during the 4-year period, a difference of only \$46 occurring between the low year, 1938, and the high year, 1939. The uniformity in valuation was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$40 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$1,336 in 1939 as contrasted with \$928 for 1938. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

TABLE 2.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 8, 1939

Items	Your farm	Average of all farms	Land area tillable	
			90 percent or more	Less than 90 percent
Number of farms - - - - -	--	63	30	33
<u>Capital Investments</u>				
Land- - - - -	\$ _____	\$ 9,979	\$12,035	\$ 8,110
Farm improvements - - - - -	_____	1,896	1,900	1,893
Horses - - - - -	_____	401	408	395
Productive livestock: Cattle- - - - -	_____	639	555	716
Hogs- - - - -	_____	296	295	297
Sheep - - - - -	_____	72	34	107
Poultry - - - - -	_____	127	114	137
Total productive livestock- - - - -	()	(1,134)	(998)	(1,257)
Feed and grain - - - - -	_____	1,228	1,396	1,075
Machinery and equipment - - - - -	_____	1,197	1,391	1,022
Automobile (farm share) - - - - -	_____	126	129	122
Totals- - - - -	\$ _____	\$15,961	\$18,257	\$13,874
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ _____	\$ --	\$ --	\$ --
Productive livestock: Cattle- - - - -	_____	420	383	453
Dairy sales - - - - -	_____	149	136	162
Hogs- - - - -	_____	582	649	520
Sheep - - - - -	_____	49	33	64
Poultry - - - - -	_____	58	70	48
Egg sales - - - - -	_____	195	199	190
Total productive livestock- - - - -	()	(1,453)	(1,470)	(1,437)
Farm products used in household - - - - -	_____	239	225	251
Feed and grain - - - - -	_____	804	1,294	358
Labor off farm - - - - -	_____	31	41	23
Miscellaneous - - - - -	_____	13	5	21
AAA payments - - - - -	_____	338	418	266
Totals- - - - -	\$ _____	\$ 2,878	\$ 3,453	\$ 2,356
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ _____	\$ 113	\$ 105	\$ 119
Horses - - - - -	_____	6	7	4
Productive livestock- - - - -	_____	--	--	--
Feed and grain- - - - -	_____	--	--	--
Machinery and equipment - - - - -	_____	292	312	276
Automobile (farm share) - - - - -	_____	82	80	83
Hired labor - - - - -	_____	172	231	120
Miscellaneous - - - - -	_____	20	20	20
Crop expense - - - - -	_____	96	103	89
Livestock expense - - - - -	_____	22	24	22
Taxes - - - - -	_____	181	212	152
Totals- - - - -	\$ _____	\$ 984	\$ 1,094	\$ 885
Receipts less expenses- - - - -	\$ _____	\$ 1,894	\$ 2,359	\$ 1,471
Family labor- - - - -	_____	137	104	167
Returns for labor, capital, mgt.- - - - -	_____	1,757	2,255	1,304
Operator's labor- - - - -	_____	421	424	418
Returns for capital and mgt.- - - - -	_____	1,336	1,831	886
Rate Earned on Investment - - - - -	%	8.4%	10.0%	6.4%
Interest on investment- - - - -	\$ _____	\$ 798	\$ 913	\$ 693
Labor and Management Earnings - - - - -	_____	959	1,342	611
Nonfarm income - - - - -	\$ _____	\$ 63	\$ 71	\$ 55

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 8; for example, 18 farms earned less than 5 percent on the investment, with an average rate earned of 2.3 percent, but in contrast 12 farms earned 11 percent or more, with an average rate earned of 14.4 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had \$167 for labor and management earnings as contrasted with a gain of \$2,136 for the latter group. By studying the reasons for these variations, farm operators can improve their chances of financial success. The variation in earnings and in size of farm for all records in the areas was as follows:

<u>Rate earned on investment (percent)</u>	<u>Number of farms</u>	<u>Average rate earned</u>	<u>Acres per farm</u>	<u>Capital in- vested per farm</u>	<u>Gross earnings per farm</u>	<u>Net earnings per farm</u>	<u>Labor and management earnings</u>
Less than 5	18	2.3	184	\$10,612	\$1,674	\$ 249	\$ 167
5 to 11	33	8.1	226	18,152	3,209	1,475	963
11 or more	12	14.4	246	17,961	4,320	2,584	2,136

Comparison of Farms According to Quality of Land

The 63 farms were divided into two groups according to the percent of land area tillable. Of this total number of farms, 30 had 90 percent or more of land area tillable, and 33 had less than 90 percent tillable. The average percent tillable was 94.6 for the former group and 78.1 for the latter group.

This grouping of farms gives each farmer an opportunity to compare his farm with the average of other farms having a similar quality of land as well as with the average of all accounting farms (Tables 2 and 3).

The capital investment averaged \$18,257, or \$78 per acre, for the group of farms having the larger percent of land area tillable, as compared with a capital investment averaging \$13,874, or \$68 per acre, for the group of farms having the smaller percent of land area tillable.

The receipts and net increases were \$1,097 larger and expenses and net decreases \$209 larger on farms of higher-quality land than on those of lower quality land. Cattle and dairy sales were smaller for the farms with the larger percent of land area tillable; whereas feed and grain, AAA, and hog receipts were larger. The rate earned on investment was 10.0 percent and 6.4 percent and the labor and management earnings were \$1,342 and \$611, respectively, for the two groups of farms.

The farms on higher-quality land were 29 acres larger and had 58 acres more land in crops than did those on lower-quality land. The farms with the higher quality land also had a larger percent of tillable land in grain crops but a smaller percent in hay and pasture. However, the amount of livestock per farm was larger on that group of farms having the smaller percent of land area tillable, as indicated by the value of feed fed to productive livestock and the capital invested in productive livestock (Tables 2 and 3).

TABLE 3.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 8, 1939

Items	Your farm	Average of all farms	Land area tillable	
			90 percent or more	Less than 90 percent
Rate earned on investment- - - - -	_____ %	8.4%	10.0%	6.4%
Acres in farm- - - - -	_____	218	233	204
Acres in crops - - - - -	_____	142	172	114
Gross earnings per acre- - - - -	\$ _____	\$ 13.23	\$ 14.84	\$ 11.57
Total expenses per acre ² - - - - -	_____	7.09	6.97	7.22
Net earnings per acre - - - - -	_____	6.14	7.87	4.35
<u>Investments</u>				
Value of land per acre - - - - -	\$ _____	\$ 46	\$ 52	\$ 40
Value of improvements per acre - - - - -	_____	9	8	9
Total investment per acre- - - - -	_____	73	78	68
<u>Land Use</u>				
Percent of land area tillable- - - - -	_____	86.5	94.6	78.1
Percent of tillable land in:				
Corn - - - - -	_____	24.1	25.6	22.3
Oats - - - - -	_____	6.7	5.9	7.8
Wheat- - - - -	_____	20.5	21.8	18.9
Soybeans - - - - -	_____	2.8	3.5	1.9
Other crops- - - - -	_____	15.5	18.9	11.1
Legume hay and pasture - - - - -	_____	20.7	16.5	26.0
Nonlegume hay and pasture- - - - -	_____	9.7	7.8	12.0
<u>Crop Yields</u>				
Corn - - - - -	_____	43.5	43.7	43.1
Oats - - - - -	_____	22.9	22.0	23.7
Wheat- - - - -	_____	17.4	18.9	15.1
<u>Livestock Factors</u>				
Value of feed fed to prod. L. S. - - -	\$ _____	\$ 989	\$ 951	\$ 1,024
Feed fed per acre to prod. L. S. - - -	_____	4.55	4.09	5.03
Returns per acre from prod. L. S.- - -	_____	7.48	7.03	7.94
Returns per \$100 worth of feed fed - - -	_____	165	172	158
Returns per \$100 invested in cattle- - -	_____	88	90	86
Poultry returns per hen- - - - -	_____	2.23	2.45	2.07
Number of litters farrowed - - - - -	_____	8.7	8.4	9.0
Number of pigs weaned per litter - - -	_____	6.4	6.8	6.1
Returns per litter farrowed- - - - -	\$ _____	\$ 76	\$ 83	\$ 69
Average number of cows milked- - - - -	_____	3.6	3.5	3.7
Dairy returns per cow milked - - - - -	\$ _____	\$ 60	\$ 57	\$ 64
<u>Expense Factors</u>				
Machinery cost per crop acre ¹ / - - -	\$ _____	\$ 2.64	\$ 2.28	\$ 3.16
Horse and machinery cost per crop A. - - -	_____	3.39	2.95	4.00
Labor cost per crop acre ² / - - - - -	_____	4.94	4.27	6.00
Labor cost per \$100 gross earnings ² / - - -	_____	24	21	29
Number of work horses- - - - -	_____	3.6	3.6	3.5
Value of feed fed to horses- - - - -	\$ _____	\$ 100	\$ 109	\$ 92
Improvement cost per acre- - - - -	_____	.52	.45	.58
Taxes per acre - - - - -	_____	.83	.91	.75

¹/ Includes farm share of automobile.

²/ Includes operator's and family labor.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS,
FARMS WITH MORE THAN 90 PERCENT OF THE LAND AREA TILLABLE

Accounting Farms in Farming-Type Area 8, 1939

The numbers above the lines across the middle of the page are the averages for the 30 farms included in this group for the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings										Factors that affect expenses		
			Percent tillable land in legume hay and pasture	Crop yields			Feed fed per acre to prod. L. S.	Returns per \$100 feed fed	Poultry returns per hen	Hog returns per litter farrowed	Dairy returns per cow milked	Total expense per acre	Horse and machinery cost per crop acre	Labor cost per crop acre	Labor cost per \$100 gross earnings
				Corn, bu.	Oats, bu.	Wheat, bu.									
20	383	25	31	64	37	29	9	247	3.95	133	107	--	.45	--	--
18	353	23	28	60	34	27	8	232	3.65	123	97	--	.95	--	1
16	323	21	25	56	31	25	7	217	3.35	113	87	1	1.45	1	6
14	293	19	22	52	28	23	6	202	3.05	103	77	3	1.95	2	11
12	263	17	19	48	25	21	5	187	2.75	93	67	5	2.45	3	16
10.0	233	14.84	16.5	43.7	22.0	18.9	4.09	172	2.45	83	57	6.97	2.95	4.27	21
8	203	13	13	40	19	17	3	157	2.15	73	47	9	3.45	5	26
6	173	11	10	36	16	15	2	142	1.85	63	37	11	3.95	6	31
4	143	9	7	32	13	13	1	127	1.55	53	27	13	4.45	7	36
2	113	7	4	28	10	11	--	112	1.25	43	17	15	4.95	8	41
0	83	5	1	24	7	9	--	97	.95	33	7	17	5.45	2	46

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 8, 1939

Items	Source of income		
	Grain 40%+	General farms	
		L.S. 60%-	L.S. 60%+
Number of farms - - - - -	13	25	25
Percent income from productive L. S. - - - - -	28.5	47.1	79.5
Percent income from crops - - - - -	54.4	26.3	--
<u>Investments</u>			
Total per farm - - - - -	\$26,050	\$15,258	\$11,418
Total per acre - - - - -	78	73	69
Land per acre - - - - -	55	45	38
Improvements per acre - - - - -	8	8	10
Machinery per acre ^{1/} - - - - -	5.82	6.65	5.65
<u>Earnings</u>			
Per farm			
Gross earnings - - - - -	\$ 4,689	\$ 2,706	\$ 2,128
Gross expenses ^{2/} - - - - -	2,139	1,462	1,331
Net earnings - - - - -	2,550	1,244	797
Per acre			
Gross earnings - - - - -	\$ 14.05	\$ 13.01	\$ 12.77
Gross expenses ^{2/} - - - - -	6.41	7.03	7.99
Net earnings - - - - -	7.64	5.98	4.78
Rate earned on investment - - - - -	9.8%	8.2%	7.0%
Labor and management earnings - - - - -	\$ 1,635	\$ 884	\$ 682
<u>Size and Intensity</u>			
Acres per farm - - - - -	334	208	167
Percent land area tillable - - - - -	91.1	83.2	85.7
Percent tillable land in grain - - - - -	62.0	55.8	49.7
Percent in hay and pasture - - - - -	19.3	33.4	39.1
Feed fed per acre to productive L. S. - - - - -	\$ 2.43	\$ 4.56	\$ 6.74
Months of labor per 100 crop acres - - - - -	8.9	13.6	16.0
Total months of labor - - - - -	22.2	17.6	15.5
<u>Crop Yields Per Acre</u>			
Corn, bu. - - - - -	47.6	44.3	36.6
Wheat, bu. - - - - -	17.3	17.8	16.9
<u>Livestock Returns</u>			
Per \$100 feed fed - - - - -	\$ 186	\$ 155	\$ 165
Hog returns per litter - - - - -	66	80	78
Dairy returns per cow - - - - -	66	58	58
<u>Expense Factors</u>			
Labor cost ^{2/}			
Per crop acre - - - - -	\$ 3.53	\$ 5.28	\$ 6.37
Per \$100 gross earnings - - - - -	19	25	29
Horse and machinery cost per crop acre ^{1/} - - - - -	2.98	3.30	4.07
Improvement cost per acre - - - - -	.40	.51	.65
Land tax per acre - - - - -	.82	.75	.63

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Crop yields per acre for the two major grain crops were larger on the farms with the larger percent of land area tillable, the difference amounting to .6 bushel of corn and 3.8 bushels of wheat. Yields of oats, however, averaged 1.7 bushels lower on this group of farms than on the farms with the smaller percent of land area tillable.

The operating expenses per acre averaged \$6.97 on the farms with the most tillable land and \$7.22 on the farms with the least tillable land. The combined cost per crop acre for labor, machinery, and horses was \$2.78 smaller on the farms with the larger percent of tillable land, and the combined cost per acre for improvements and taxes was practically the same for the two groups of farms.

The farms with the higher percent of land area tillable had larger average poultry returns per hen and larger returns per litter of pigs farrowed but smaller dairy returns per cow.

Source of Income

The 63 farms were divided into 3 groups according to source of income (Table 4). The items in this table, for the most part, were made to correspond with the items given in Table 3; therefore, a farmer may compare the data in the "Your farm" column of Table 3 with the "Source of income" column in Table 4, which corresponds to the classification for his own farm.

In a comparison of the groups of farms the fact that conditions affecting production and price relationships vary from year to year should be kept in mind. Therefore, the average differences in earnings in 1939 are not necessarily typical of the variations that may be expected over a long period of years. The following items, for example, indicate that generally the grain farms were located on the better land: high value of land per acre, large percent of land area tillable, large percent of land in grain, high yield of corn per acre, and land tax per acre.

The returns per \$100 feed that are necessary to pay for feed (including pasture) and other costs, according to 5-year averages of complete cost studies (1933-1937), are as follows: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117. There is little wonder, therefore, that the 3 groups of accounting farms with different classes and proportions of livestock varied widely in their returns per \$100 worth of feed fed. The amount of feed fed per acre to productive livestock averaged \$6.74 on the general farms with the most livestock but only \$2.43 on the grain farms.

Differences in expenses are significant for the 3 groups of farms. Labor cost per crop acre was highest on the general farms with the most livestock and lowest on the grain farms. Horse and machinery cost per crop acre averaged \$4.07 on the general farms with the most livestock, \$3.30 on the general farms with the least livestock, and only \$2.98 on the grain farms. Improvement cost per acre ranged from \$.65 on the farms with 60 percent or more of the income from livestock to \$.40 on the grain farms, and land taxes ranged from \$.63 on the former group of farms to \$.82 on the latter.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 8, 1939

Items	Total acres in farm		
	61 to 180	181 to 300	301 or more
Number of farms - - - - -	32	19	12
Acres per farm- - - - -	136	234	409
<u>Investments</u>			
Total per farm - - - - -	\$10,057	\$16,445	\$30,939
Total per acre - - - - -	74	70	76
Land per acre - - - - -	43	42	52
Improvements per acre - - - - -	10	8	8
Machinery per acre ^{1/} - - - - -	6.13	6.51	5.66
<u>Earnings</u>			
Per farm			
Gross earnings ^{2/} - - - - -	\$ 1,810	\$ 3,081	\$ 5,423
Gross expenses ^{2/} - - - - -	1,168	1,584	2,492
Net earnings - - - - -	642	1,497	2,931
Per acre			
Gross earnings ^{2/} - - - - -	\$ 13.33	\$ 13.17	\$ 13.25
Gross expenses ^{2/} - - - - -	8.60	6.77	6.09
Net earnings - - - - -	4.73	6.40	7.16
Rate earned on investment - - - - -	6.4%	9.1%	9.5%
Labor and management earnings - - - - -	\$ 597	\$ 1,070	\$ 1,748
<u>Size and Intensity</u>			
Percent land area tillable- - - - -	86.3	85.3	87.7
Percent tillable land in grain - - - - -	53.3	54.5	59.8
Percent in hay and pasture- - - - -	35.7	32.8	23.7
Feed fed per acre to productive L. S. - - - - -	\$ 5.88	\$ 4.52	\$ 3.40
Percent of income from productive L. S. - - - - -	66.1	48.9	37.8
Percent of income from grain- - - - -	9.3	27.9	44.4
Months of labor per 100 crop acres- - - - -	16.9	13.3	8.5
Total months of labor - - - - -	14.1	19.3	24.9
<u>Crop Yields Per Acre</u>			
Corn, bu. - - - - -	40.3	43.3	46.0
Wheat, bu.- - - - -	17.1	18.1	16.9
<u>Livestock Returns</u>			
Per \$100 feed fed - - - - -	\$ 169	\$ 162	\$ 161
Hog returns per litter- - - - -	79	69	83
Dairy returns per cow - - - - -	59	69	47
<u>Expense Factors</u>			
Labor cost per crop acre ^{2/} - - - - -	\$ 6.80	\$ 5.20	\$ 3.31
Labor cost per \$100 gross earnings- ^{1/} - - - - -	31	25	18
Horse and machinery cost per crop A. ^{1/} - - - - -	3.96	3.23	3.09
Improvement cost per acre - - - - -	.71	.42	.44
Land tax per acre - - - - -	.79	.66	.72

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Size of Farm As Related to Earnings

The farm records in Farming-Type Area 8, when sorted according to the total acres in the farm, indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller farms. The operators on the larger farms took in more money during the year than did the operators on the smaller farms; and after deductions were made for farm business expenditures and interest on the investment, the 12 largest farms had labor and management earnings which averaged \$1748 as contrasted with \$597 for the 32 smallest farms. The earnings, as measured by the rate earned on the investment, were also larger for the 12 largest farms. In years when the average rate earned on investment for groups of farms exceeds the capitalization rate (5 percent), the average labor and management earnings are higher on the larger farms than on the smaller ones, but these earnings are lower when the rate earned averages less than the capitalization rate.

The smaller farms were operated more intensively than were the larger farms. This variation was indicated by the higher gross earnings per acre, by the larger amount of feed fed per acre to productive livestock, and by the months of labor per 100 crop acres.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and the source of farm income (Tables 6 and 7).

In this report an average was calculated for Edwards county from which 30 records were received. In any tabulation containing a small number of records, part of the variation from county to county is due to the fact that the averages do not represent a cross section of the county.

The tabulations by counties and by groups of counties may be used by extension specialists, farm advisers, and county program-building committees to represent the type of farm organization and the level of operating efficiency attained by a selected group of progressive farmers in the various parts of a farming-type area. Since the personnel of the accounting group changes slowly, comparisons may be made from county to county and from year to year even though these records are from farms with efficiency which is higher than average.

TABLE 6.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 8, 1939

Items	Edwards ^{1/}	White, Lawrence, Wabash, Gallatin and Saline
Number of farms - - - - -	29	34
<u>Capital Investments</u>		
Land - - - - -	\$6,590	\$12,869
Farm improvements - - - - -	1,496	2,238
Horses - - - - -	342	452
Productive livestock: Cattle - - - - -	589	682
Hogs - - - - -	288	303
Sheep - - - - -	68	76
Poultry - - - - -	131	122
Total productive livestock - - - - -	(1,076)	(1,183)
Feed and grain - - - - -	937	1,476
Machinery and equipment - - - - -	874	1,473
Automobile (farm share) - - - - -	104	144
Totals - - - - -	\$11,419	\$19,835
<u>Receipts and Net Increases</u>		
Horses - - - - -	\$ --	\$ 5
Productive livestock: Cattle - - - - -	387	447
Dairy sales - - - - -	111	182
Hogs - - - - -	568	593
Sheep - - - - -	44	53
Poultry - - - - -	57	60
Egg sales - - - - -	236	160
Total productive livestock - - - - -	(1,403)	(1,495)
Farm products used in household - - - - -	239	238
Feed and grain - - - - -	319	1,218
Labor off farm - - - - -	31	32
Miscellaneous - - - - -	9	18
AAA payments - - - - -	318	355
Totals - - - - -	\$ 2,319	\$ 3,361
<u>Expenses and Net Decreases</u>		
Farm improvements - - - - -	\$ 97	\$ 126
Horses - - - - -	19	--
Productive livestock - - - - -	--	--
Feed and grain - - - - -	--	--
Machinery and equipment - - - - -	171	397
Automobile (farm share) - - - - -	84	80
Hired labor - - - - -	106	229
Miscellaneous - - - - -	19	21
Crop expense - - - - -	89	101
Livestock expense - - - - -	22	23
Taxes - - - - -	153	205
Totals - - - - -	\$ 760	\$ 1,182
Receipts less expenses - - - - -	\$ 1,559	\$ 2,179
Family labor - - - - -	101	167
Returns for labor, capital, management - - - - -	1,458	2,012
Operator's labor - - - - -	440	404
Returns for capital and management - - - - -	1,018	1,608
<u>Rate Earned on Investment</u> - - - - -	8.9%	8.1%
Interest on investment - - - - -	\$ 571	\$ 992
Labor and Management Earnings - - - - -	887	1,020
Nonfarm income - - - - -	\$ 53	\$ 71

^{1/} Thirty or more records were completed, but certain ones were not used in the report because they were incomplete or not typical.

TABLE 7.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 8, 1939

Items	Edwards	White, Lawrence, Wabash, Gallatin, and Saline
Rate earned on investment- - - - -	8.9%	8.1%
Acres in farm- - - - -	174	254
Acres in crops - - - - -	106	171
Gross earnings per acre- - - - -	\$ 13.33	\$ 13.21
Total expenses per acre ^{2/} - - - - -	7.48	6.89
Net earnings per acre- - - - -	5.85	6.32
<u>Investments</u>		
Value of land per acre - - - - -	\$ 38	\$ 51
Value of improvements per acre - - - - -	9	9
Total investment per acre- - - - -	66	78
<u>Land Use</u>		
Percent of land area tillable- - - - -	85.1	87.3
Percent of tillable land in:		
Corn - - - - -	22.2	25.2
Oats - - - - -	7.9	6.0
Wheat- - - - -	18.0	21.9
Soybeans - - - - -	1.4	3.6
Other crops- - - - -	15.9	15.2
Legume hay and pasture - - - - -	21.6	20.2
Nonlegume hay and pasture- - - - -	13.0	7.9
<u>Crop Yields</u>		
Corn - - - - -	39.6	45.3
Oats - - - - -	26.1	20.6
Wheat- - - - -	18.3	17.0
Soybeans - - - - -	15.7	11.6
<u>Livestock Factors</u>		
Value of feed fed to productive L. S.- - - - -	\$955	\$1,019
Feed fed per acre to productive L. S.- - - - -	5.49	4.00
Returns per acre from productive L. S.- - - - -	9.03	6.58
Returns per \$100 worth of feed fed - - - - -	165	164
Returns per \$100 invested in cattle- - - - -	89	87
Poultry returns per hen- - - - -	2.07	2.47
Number of litters farrowed - - - - -	8.3	9.0
Number of pigs weaned per litter - - - - -	6.3	6.7
Returns per litter farrowed--- - - - -	\$ 78	\$ 75
Average number of cows milked- - - - -	3.1	4.0
Dairy returns per cow milked - - - - -	\$ 55	\$ 64
<u>Expense Factors</u>		
Machinery cost per crop acre ^{1/} - - - - -	\$ 2.10	\$ 2.78
Horses and machinery cost per crop acre ^{1/} - - - - -	3.44	3.38
Labor cost per crop acre ^{2/} - - - - -	5.78	4.48
Labor cost per \$100 gross earnings ^{2/} - - - - -	27	23
Number of work horses- - - - -	3.5	3.7
Value of feed fed to horses- - - - -	\$ 92	\$ 107
Improvement cost per acre- - - - -	.56	.50
Taxes per acre - - - - -	.88	.81

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Influence of Price Changes on Illinois Farm Income

All feed and grain, livestock, and other farm property on accounting farms must be valued at both the beginning and the end of the year. Prices at inventory time, therefore, have a marked influence on farm earnings. The influence is greatest where large stocks or supplies are on hand at inventory time; for example, a much larger supply of farm products was found on Illinois farms December 31, 1939, than a year earlier. In fact, grain and livestock inventories have been increasing on Illinois farms since the drouth of 1936 as a result of three years of exceptionally high crop yields and the influence of Agricultural Adjustment Programs which have caused farmers to grow more hay and pasture and to store corn on farms under seal. According to estimates made by the Bureau of Agricultural Economics, U.S.D.A., 356 million bushels of corn were on Illinois farms January 1, 1940, as compared with 325 million bushels January 1, 1939.

Livestock numbers on Illinois farms increased sharply in 1939 even though 62 million bushels of 1937 and 1938 corn were placed under seal at the end of the year and 83 million bushels of 1939 corn were sealed by March 31, 1940. The following data indicate the percentage increase in livestock numbers on 2520 accounting farms in Illinois from the beginning to the end of 1939: dairy cows, 2 percent; beef cows, 21 percent; feeder cattle, 17 percent; feeder lambs, 24 percent; brood sows, 4 percent; spring pigs, 38 percent; summer pigs, 23 percent; and fall pigs, 28 percent. Hog numbers have been increasing since 1935 and have now attained record levels; for example, 15.5 sows farrowed per farm on accounting farms in 1939 as contrasted with 9.9 sows farrowed per farm in 1938. The increase in beef cattle numbers is a part of the general up-swing taking place over the entire United States, and it may be expected to continue for several years.

These data indicate that supplies of both feed and livestock were great at the time the 1939 closing inventory was taken than at any other inventory period in several years, and price changes, therefore, are important in interpreting farm earnings for the state and for farming-type areas in 1939.

Prices of important farm products.--Prices for all crops as well as for beef cattle and sheep were higher at the end of 1939 than they were at the beginning, whereas prices for horses, hogs, and poultry were lower. Most of these price increases occurred during the last four months of the year.

December 15, Illinois Farm Prices

	<u>1938</u>	<u>1939</u>	<u>Increase</u>	<u>Decrease</u>
Corn, bu.	\$.42	\$.47	\$.05	\$ --
Oats, bu.	.24	.35	.11	--
Wheat, bu.	.57	.88	.31	--
Soybeans, bu.	.65	.95	.30	--
Hay, tons	6.20	6.50	.30	--
Horses, hd.	88.00	85.00	--	3.00
Hogs, cwt.	7.00	5.10	--	1.90
Beef cattle, cwt.	7.70	8.30	.60	--
Sheep, cwt.	3.45	3.60	.15	--
Chickens, lb.	.13	.11	--	.02

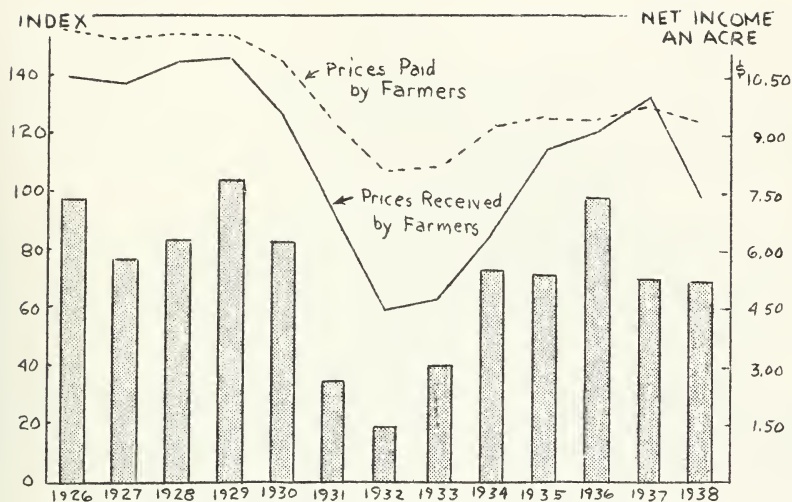


Fig. 1.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1938.

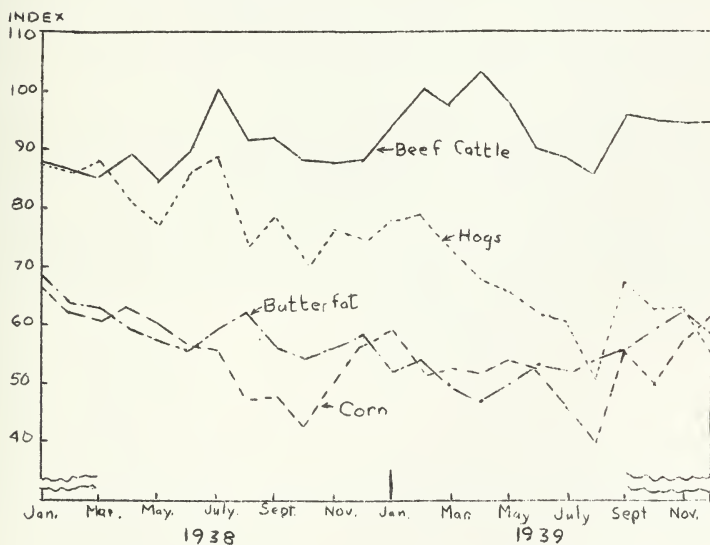


Fig. 2.--Monthly price indices of the average farm prices of corn, hogs, beef cattle, and butterfat, 1938 and 1939. (1924-1929 = 100)

Farm earnings are influenced by the average price received for farm products during the year as well as by the values at inventory time. Although nearly all commodities were higher in price at the end of the year than at the beginning, prices received for the following commodities averaged lower in 1939 than in 1938 by these amounts: corn, 2 cents per bushel; wheat and soybeans, 1 cent per bushel; hogs, \$1.50 per hundred; butterfat, 2 cents per pound; eggs, 3 cents per dozen; and chickens, 2 cents per pound. The prices for other commodities averaged higher in 1939 than in 1938 by the following amounts: oats, 4 cents per bushel; beef cattle, 50 cents per hundred; lambs, 42 cents per hundred; wool, 4 cents per pound; and apples, 12 cents per bushel.

Variation in earnings between the various type-of-farming areas is influenced by the relative prices of grains, livestock, and livestock products. In 1939 as in 1938 livestock had a price advantage over grain, but the advantage was not as marked as it was in 1938. The prices for meat animals dropped from 116 to 110 percent of the 1910-14 average, grains from 74 to 72 percent, chickens and eggs from 106 to 94 percent, and dairy products from 106 to 104 percent.

The corn-hog ratio also narrowed during the year to the disadvantage of the hog enterprise. The amount of corn equal in value to 100 pounds of hogs dropped from 19 bushels in February to 11 bushels in December (based on farm prices). Unfavorable feeding ratios will discourage expansion in hog numbers in 1940.

Crop Yields in Illinois, 1939

Crop yields in Illinois in 1939, as in 1938 and 1937, were unusually high. The weighted average yield of corn, oats, wheat, and soybeans was 133 percent of the 10-year average, 1929-1938. Corn contributed more than did any other crop to the high average yields. The yields of the various crops expressed in percentages of the 1929-1938 averages were: corn, 150; soybeans, 129; wheat, 121; and oats, 97.

Crop yields in all counties except Massac were above the 10-year average (1929-1938 = 100), but wide variations in yields occurred between individual counties and groups of counties. Four counties along the Ohio River had crop-yield indices under 105. In contrast to these counties, 31 were over 136. Many of the counties with the highest yields were in two groups, those located in southwestern and east north central Illinois. Crop-yield indices were adversely affected in southeastern Illinois by the wheat crop and in northern Illinois by low oat yields. Fifty-five counties, which were well-distributed over the state, had crop-yield indices from 121 to 135.

Fig. 3.--Crop yields for 1939, compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1939



FARMING-TYPE AREA NINE Southern Fruit and Vegetable Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON FIFTY-SIX FARMS IN FARMING-TYPE AREA 9, 1939

By P. E. Johnston, J. B. Cunningham, and E. N. Searls^{1/}

Farm earnings of accounting farms in Farming-Type Area 9 were higher in 1939 than in 1938. The net earnings per acre averaged \$3.31 in 1939, \$2.73 in 1938, and \$3.41 in 1937. The items considered in calculating the net earnings included inventory changes, cash receipts, cash expenses, the value of the farm products used in the household (in 1938 and 1939 only), and unpaid family labor (Table 1).



▨ Farming-Type Area 9
Fruit and Vegetable

Since the value of farm products used in the household was not included in the records prior to 1938, the earnings for 1938 and 1939 are not strictly comparable to those for other years. The value per acre of farm products used was \$1.27 in 1938 and \$1.23 in 1939.

The accounting farms were larger than average, crop yields were above average, and the farms as a whole were operated with efficiency which was greater than average. Therefore, the figures contained in this report represent conditions which are better than average for this area. This fact is borne out by survey records taken in various areas of the state.

High crop yields, accompanied by increased industrial activity and improved demand for farm products especially during the latter half of the year, were the principal factors producing higher earnings in 1939 (Figs. 1, 2, and 3).

General farms, on which considerable grain and livestock was produced, predominated among the accounting farms even though Farming-Type Area 9 is the Fruit and Vegetable Area of the state (Table 4).

^{1/} R. J. Mutti supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm accounts project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the farm advisers indicated:

W. C. Anderson, Johnson County
J. R. Strubinger, Massac County
E. A. Bierbaum, Union County

J. G. McCall, Jackson-Perry Counties
A. A. Pease, Pulaski-Alexander Counties
G. C. Smith, Pope-Hardin Counties

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 9, 1936-1939

Items	Your farm	Average of all farms in area		
		1939	1938	1937
Number of farms- - - - -	--	56	37	30
<u>Inventory Changes</u>				
Farm improvements ^{1/} - - - - -	\$ _____	\$ -79	\$ -18	\$ -66
Livestock- - - - -	_____	16	44	3
Feed and grain - - - - -	_____	61	-122	198
Machinery and equipment ^{2/} - - - - -	_____	9	134	190
Automobile (farm share)- - - - -	_____	5	13	--
Totals - - - - -	\$ _____	\$ 12	\$ 51	\$ 325
<u>Cash Receipts</u>				
Farm improvements- - - - -	\$ _____	\$ 20	\$ --	\$ 1
Horses - - - - -	_____	58	99	78
Productive livestock: Cattle - - - - -	_____	294	290	235
Dairy sales- - - - -	_____	298	312	264
Hogs - - - - -	_____	360	667	636
Sheep- - - - -	_____	40	12	13
Poultry- - - - -	_____	60	65	95
Egg sales- - - - -	_____	124	176	206
Total productive livestock - - - - -	()	(1,176)	(1,522)	(1,449)
Feed and grain ^{3/} - - - - -	_____	1,169	504	766
Machinery and equipment ^{2/} - - - - -	_____	100	93	200
Automobile (farm share)- - - - -	_____	13	24	--
Labor off farm - - - - -	_____	21	24	120
Miscellaneous- - - - -	_____	15	3	1
AAA payments - - - - -	_____	259	145	188
Totals - - - - -	\$ _____	\$2,831	\$2,414	\$2,803
<u>Cash Expenses</u>				
Farm improvements ^{1/} - - - - -	\$ _____	\$ 168	\$ 127	\$ 115
Horses - - - - -	_____	46	56	74
Productive livestock: Cattle - - - - -	_____	94	149	39
Hogs - - - - -	_____	25	48	35
Sheep- - - - -	_____	3	4	5
Poultry- - - - -	_____	13	14	21
Total productive livestock - - - - -	()	(135)	(215)	(100)
Feed and grain - - - - -	_____	451	219	302
Machinery and equipment ^{2/} - - - - -	_____	373	444	708
Automobile (farm share)- - - - -	_____	92	117	--
Hired labor- - - - -	_____	411	195	187
Miscellaneous- - - - -	_____	25	16	18
Crop expense - - - - -	_____	75	72	159
Livestock expense- - - - -	_____	24	13	19
Taxes- - - - -	_____	135	141	140
Totals - - - - -	\$ _____	\$1,935	\$1,615	\$1,822
<u>Summary</u>				
Cash balance - - - - -	\$ _____	\$ 896	\$ 799	\$ 981
Farm products used in household ^{4/} - - - - -	_____	229	284	--
Total inventory change - - - - -	_____	12	51	325
Receipts less expenses - - - - -	_____	1,137	1,134	1,306
Total unpaid labor - - - - -	_____	522	521	605
Net earnings per farm- - - - -	\$ _____	\$ 615	\$ 613	\$ 701
Net earnings per acre- - - - -	\$ _____	\$ 3.31	\$ 2.73	\$ 3.41

^{1/} Includes trees and plants on fruit and truck farms for 1939.

^{2/} Includes farm share of automobile for 1937.

^{3/} Includes income from fruit and vegetables for 1939.

^{4/} Not included as income for 1937.

Inventory Changes, Cash Receipts, Cash Expenses, and Earnings

Inventory changes.--The year 1939 was the third consecutive year of increasing inventories, the increases averaging \$12 in 1939, \$51 in 1938, and \$325 in 1937 (Table 1). These increases were made despite decreases in value of improvements. The largest increases in 1939 were in feed and grain. The increased value of feed and grain represented higher prices at the end of the year as there were only slight changes in the quantities of grain on hand (Page 1 and Fig. 2). The average amounts of grain on hand in Area 9 at the two inventory periods follow:

	<u>Beginning of year (bushels)</u>	<u>End of year (bushels)</u>
Corn	699	707
Oats	73	51
Wheat	43	56

Cash receipts.--Cash receipts reached the highest level in three years, averaging \$2,831 in 1939 (Table 1). AAA receipts and sales of feed and grain (including fruit and vegetables) were larger in 1939 than in 1938, but livestock sales were smaller. The larger AAA receipts were mainly due to a doubling-up in payments, many farmers receiving payments in 1939 for participation in both the 1938 and 1939 programs.

Cash expenses.--Cash expenses were larger in 1939 than in either 1938 or 1937. Less money was spent for productive livestock and machinery in 1939 than in 1938, although more was spent for improvements, feed and grain, and labor.

Earnings.--Cash receipts exceeded cash expenses in 1939 by \$896, or by a larger margin than for 1938 but by a smaller margin than for 1937. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The amounts deducted for operator's and family labor remained rather uniform during the 4-year period, a difference of only \$84 occurring between the low year, 1938, and the high year, 1937. The uniformity in valuation was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$40 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$615 in 1939 as compared with \$613 for 1938. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

TABLE 2.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 9, 1939

Items	Your farm	Average of all farms	Land area tillable	
			85 percent or more	Less than 85 percent
Number of farms - - - - -	--	56	31	25
<u>Capital Investments</u>				
Land - - - - -	\$ _____	\$ 5,157	\$ 5,299	\$ 4,981
Farm improvements - - - - -	_____	3,315	4,023	2,438
Horses - - - - -	_____	392	377	410
Productive livestock: Cattle- - - - -	_____	550	516	594
Hogs- - - - -	_____	235	259	205
Sheep - - - - -	_____	62	47	79
Poultry - - - - -	_____	91	80	105
<u>Total productive livestock- - - - -</u>	()	(938)	(902)	(983)
Feed and grain - - - - -	_____	768	746	797
Machinery and equipment - - - - -	_____	995	1,065	907
Automobile (farm share) - - - - -	_____	124	141	102
<u>Totals- - - - -</u>	\$ _____	\$11,689	\$12,553	\$10,618
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ _____	\$ 9	\$ 11	\$ 9
Productive livestock: Cattle- - - - -	_____	266	244	294
Dairy sales - - - - -	_____	298	320	271
Hogs- - - - -	_____	306	312	297
Sheep - - - - -	_____	25	16	37
Poultry - - - - -	_____	41	29	55
Egg sales - - - - -	_____	124	121	128
<u>Total productive livestock- - - - -</u>	()	(1,060)	(1,042)	(1,082)
Farm products used in household - - - - -	_____	229	203	262
Feed and grain - - - - -	_____	779	948	569
Labor off farm - - - - -	_____	21	22	19
Miscellaneous - - - - -	_____	15	7	24
AAA payments- - - - -	_____	259	239	285
<u>Totals- - - - -</u>	\$ _____	\$ 2,372	\$ 2,472	\$ 2,250
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ _____	\$ 227	\$ 271	\$ 173
Horses - - - - -	_____	--	--	--
Productive livestock- - - - -	_____	--	--	--
Feed and grain- - - - -	_____	--	--	--
Machinery and equipment - - - - -	_____	264	324	190
Automobile (farm share) - - - - -	_____	74	71	79
Hired labor - - - - -	_____	411	584	196
Miscellaneous - - - - -	_____	25	32	16
Crop expense- - - - -	_____	75	92	54
Livestock expense - - - - -	_____	24	25	24
Taxes - - - - -	_____	135	142	125
<u>Totals- - - - -</u>	\$ _____	\$ 1,235	\$ 1,541	\$ 857
<u>Receipts less expenses- - - - -</u>	\$ _____	\$ 1,137	\$ 931	\$ 1,393
Family labor- - - - -	_____	120	125	116
Returns for labor, capital, mgt.- - - - -	_____	1,017	806	1,277
Operator's labor- - - - -	_____	402	387	420
Returns for capital and mgt.- - - - -	_____	615	419	857
<u>Rate Earned on Investment - - - - -</u>	_____ %	5.3%	3.3%	8.1%
Interest on investment- - - - -	\$ _____	\$ 585	\$ 628	\$ 531
Labor and Management Earnings - - - - -	_____	432	178	746
<u>Nonfarm income- - - - -</u>	\$ _____	\$ 147	\$ 181	\$ 105

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 9; for example, 17 farms earned less than 3 percent on the investment, with an average loss of 5.4 percent, but in contrast 22 farms earned 9 percent or more, with an average rate earned of 12.6 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$933 for labor and management earnings as contrasted with a gain of \$1,458 for the latter group. By studying the reasons for these variations, farm operators can improve their chances of financial success. The variation in earnings and in size of farm for all records in the areas was as follows:

Rate earned on investment (percent)	Number of farms	Average rate earned (percent)	Acres per farm	Capital in- vested per farm	Gross earnings per farm	Net earnings per farm	Labor and management earnings
Less than 3	17	-5.4	184	\$12,671	\$2,108	\$ -686	\$ -933
3 to 9	17	5.9	162	8,298	1,687	493	470
9 or more	22	12.6	205	13,551	4,123	1,714	1,458

Comparison of Farms According to Percent of Land Area Tillable

The 56 farms were divided into two groups according to the percent of land area tillable. Of this total number of farms, 31 had 85 percent or more of land area tillable, and 25 had less than 85 percent tillable. The average percent tillable was 91.2 for the former group and 68.8 for the latter group.

There was a tendency for the farms with the larger percent of land area tillable to have low-producing gray prairie soil and for the farms with the smaller percent of land area tillable to have rough land associated with small areas of high-producing bottomland.

This grouping of farms gives each farmer an opportunity to compare his farm with the average of other farms having a similar percent of land area tillable as well as with the average of all accounting farms (Tables 2 and 3).

The capital investment averaged \$12,553, or \$74 per acre, for the group of farms having the larger percent of land area tillable, as compared with a capital investment averaging \$10,618, or \$51 per acre, for the group of farms having the smaller percent of land area tillable.

The receipts and net increases averaged \$222 larger and expenses and net decreases \$684 larger on farms having the larger percent of land area tillable than on the farms having the smaller percent of land area tillable. The livestock receipts were \$40 smaller for the farms with the larger percent of land area tillable, whereas the grain receipts were \$379 larger. The rate earned on investment was 3.3 percent and 8.1 percent and the labor and management earnings were \$178 and \$746, respectively, for the two groups of farms.

The farms with the larger percent of land area tillable were 38 acres smaller than were those with the smaller percent of land area tillable; yet the former had 10 acres more land in crops. The amount of livestock per farm was practically the same for both groups of farms, as indicated by the value of feed fed to productive livestock and the capital invested in productive livestock (Tables 2 and 3).

TABLE 3.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 9, 1939

Items	Your farm	Average of all farms	Land area tillable	
			85 percent or more	Less than 85 percent
Rate earned on investment- - - - -	%	5.3%	3.3%	8.1%
Acres in farm- - - - -		186	169	207
Acres in crops - - - - -		98	102	92
Gross earnings per acre- - - - -	\$	\$ 12.77	\$ 14.66	\$ 10.86
Total expenses per acre ^{2/} - - - - -		9.46	12.18	6.72
Net earnings per acre- - - - -		3.31	2.48	4.14
<u>Investments</u>				
Value of land per acre - - - - -	\$	\$ 28	\$ 31	\$ 24
Value of improvements per acre - - - - -		18	24	12
Total investment per acre- - - - -		63	74	51
<u>Land Use</u>				
Percent of land area tillable- - - - -		80.0	91.2	68.8
Percent of tillable land in:				
Corn - - - - -		16.8	16.3	17.6
Oats - - - - -		2.8	3.2	2.1
Wheat- - - - -		9.1	7.9	10.7
Soybeans - - - - -		.9	.9	1.0
Other crops- - - - -		21.5	23.1	19.3
Legume hay and pasture - - - - -		29.0	29.2	28.6
Nonlegume hay and pasture- - - - -		19.9	19.4	20.7
<u>Crop Yields</u>				
Corn - - - - -		39.0	36.8	41.6
Wheat- - - - -		16.8	16.4	17.4
<u>Livestock Factors</u>				
Value of feed fed to prod. L. S. - - - \$		\$706	\$692	\$723
Feed fed per acre to prod. L. S. - - -		3.80	4.10	3.49
Returns per acre from prod. L. S. - - -		6.58	7.06	6.10
Returns per \$100 worth of feed fed - - -		173	162	175
Returns per \$100 invested in cattle- - -		108	112	103
Poultry returns per hen- - - - -		2.31	2.18	2.45
Number of litters farrowed - - - - -		8.9	10.2	7.5
Number of pigs weaned per litter - - -		5.3	5.1	5.3
Returns per litter farrowed- - - - - \$		\$ 55	\$ 50	\$ 63
Average number of cows milked- - - - -		5.1	5.0	5.2
Dairy returns per cow milked - - - - - \$		\$ 69	\$111	\$ 64
<u>Expense Factors</u>				
Machinery cost per crop acre ^{1/} - - - \$		\$ 3.46	\$ 3.86	\$ 2.92
Horse and machinery cost per crop A. - - -		4.45	4.76	4.00
Labor cost per crop acre ^{2/} - - - - -		9.33	10.51	7.73
Labor cost per \$100 gross earnings ^{2/} - - -		38	43	32
Number of work horses- - - - -		3.4	3.5	3.3
Value of feed fed to horses- - - - - \$		\$106	\$102	\$109
Improvement cost per acre- - - - -		1.22	1.61	.84
Taxes per acre - - - - -		.73	.84	.60

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS,
FARMS WITH LESS THAN 85 PERCENT OF THE LAND AREA TILLABLE

Accounting Farms in Farming-Type Area 9, 1939

The numbers above the lines across the middle of the page are the averages for the 25 farms included in this group for the factors named at the top of the page. By drawing a line across each column at the number measuring the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings								Total expense per acre	Factors that affect expenses		
			Percent tillable land in legume hay and pasture	Crop yields		Feed fed per acre to prod. L. S.	Returns per \$100 feed fed	Poultry returns per hen	Hog returns per litter farrowed	Dairy returns per cow milked		Horse and machinery cost per crop acre	Labor cost per crop acre	Labor cost per \$100 gross earnings
				Corn, bu.	Wheat, bu.									
18	357	21	44	62	27	8	225	3.95	113	114	--	1.00	3	12
16	327	19	41	58	25	7	215	3.65	103	104	--	1.60	4	16
14	297	17	38	54	23	6	205	3.35	93	94	1	2.20	5	20
12	267	15	35	50	21	5	195	3.05	83	84	3	2.80	6	24
10	237	13	32	46	19	4	185	2.75	73	74	5	3.40	7	28
8.1	207	10.6	28.6	41.6	17.4	3.49	175	2.45	63	64	6.72	4.00	7.73	32
6	177	9	26	38	15	2	165	2.15	53	54	9	4.60	9	36
4	147	7	23	34	13	1	155	1.85	43	44	11	5.20	10	40
2	117	5	20	30	11	--	145	1.55	33	34	13	5.80	11	44
0	87	3	17	26	9	--	135	1.25	23	24	15	6.40	12	48
-2	57	1	14	22	7	--	125	.95	13	14	17	7.00	13	52

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 9, 1939

Items	Source of income			
	Grain 40%	Fruit and truck	General farms	
			L.S. 60%-	L.S. 60% +
Number of farms - - - - -	5	12	21	18
Percent income from prod. L. S. - - -	24.2	22.5	48.2	75.7
Percent income from crops - - - - -	53.1	67.5	18.7	--
<u>Investments</u>				
Total per farm- - - - -	\$11,723	\$15,788	\$11,171	\$ 9,552
Total per acre- - - - -	57	97	52	60
Land per acre - - - - -	34	30	25	28
Improvements per acre - - - - -	5	49	10	13
Machinery per acre ^{1/} - - - - -	5.96	8.20	5.19	5.87
<u>Earnings</u>				
Per farm				
Gross earnings- - - - -	\$ 2,517	\$ 3,549	\$ 2,157	\$ 1,825
Gross expenses ^{2/} - - - - -	1,425	3,214	1,465	1,246
Net earnings- - - - -	1,092	335	692	579
Per acre				
Gross earnings- - - - -	\$ 12.19	\$ 21.85	\$ 9.96	\$ 11.41
Gross expenses ^{2/} - - - - -	6.90	19.79	6.76	7.79
Net earnings- - - - -	5.29	2.06	3.20	3.62
Rate earned on investment - - - - -	9.3%	2.1%	6.2%	6.1%
Labor and mgt. earnings - - - - -	\$ 858	\$ -69	\$ 552	\$ 507
<u>Size and Intensity</u>				
Acres per farm - - - - -	206	162	216	160
Percent land area tillable- - - - -	85.6	79.4	78.2	81.3
Percent tillable land in grain- - -	44.2	18.4	37.5	25.7
Percent in hay and pasture- - - - -	32.2	37.7	47.3	65.2
Feed fed per acre to prod. L. S.- -	\$ 2.16	\$ 3.09	\$ 3.45	\$ 5.42
Months of labor per 100 crop A. - -	12.6	37.8	16.1	24.3
Total months of labor - - - - -	18.5	36.7	18.2	16.3
<u>Crop Yields Per Acre</u>				
Corn, bu. - - - - -	36.5	34.6	40.0	41.1
Wheat, bu.- - - - -	18.3	21.6	15.3	18.8
<u>Livestock Returns</u>				
Per \$100 feed fed - - - - -	\$ 167	\$ 181	\$ 169	\$ 175
Hog returns per litter- - - - -	41	32	71	55
Dairy returns per cow - - - - -	51	72	63	78
<u>Expense Factors</u>				
Labor cost ^{2/}				
Per crop acre - - - - -	\$ 4.76	\$ 18.78	\$ 6.19	\$ 9.17
Per \$100 gross earnings - - - - -	28	51	32	34
Horse and machinery cost per crop acre ^{1/} - - - - -	3.17	6.31	3.86	4.55
Improvement cost per acre - - - -	.35	3.15	.85	.82
Land tax per acre - - - - -	.96	.56	.58	.74

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Since much of the productive bottomland on the accounting farms was associated with untillable land on which the farmsteads were located and since much of the tillable prairie land was relatively unproductive, no apparent relationship existed between the percent of land area tillable and land use or between land area tillable and crop yields.

Larger crop yields, amounting to 4.8 bushels of corn and 1.0 bushel of wheat, were secured on the farms with the smaller percent of land area tillable.

Livestock efficiency, as measured by returns per \$100 worth of feed fed, poultry returns per hen, and returns per litter farrowed, was lower on that group of farms with the larger percent of tillable land than on that group with the smaller percent of tillable land, but the efficiency, as measured in terms of dairy returns per cow, was larger on the former group of farms.

The operating expenses per acre averaged \$12.18 on the farms with the most tillable land and \$6.72 on the farms with the least tillable land. The combined cost per crop acre for labor, machinery, and horses was \$3.54 larger on the farms with the larger percent of tillable land, but the combined cost per acre for improvements and taxes was \$1.01 smaller.

Source of Income

The 56 farms were divided into 4 groups according to source of income (Table 4). The items in this table, for the most part, were made to correspond with the items given in Table 3; therefore, a farmer may compare the data in the "Your farm" column of Table 3 with the "Source of income" column in Table 4, which corresponds to the classification for his own farm.

In a comparison of the groups of farms the fact that conditions affecting production and price relationships vary from year to year should be kept in mind. Therefore, the average differences in earnings in 1939 are not necessarily typical of the variations that may be expected over a long period of years. The following items, for example, indicate that generally the grain farms were located on the better land: high value of land per acre, large percent of land area tillable, large percent of land in grain, and land tax per acre.

The returns per \$100 feed that are necessary to pay for feed (including pasture) and other costs, according to 5-year averages of complete cost studies (1933-1937), are as follows: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117. There is little wonder, therefore, that the 4 groups of accounting farms with different classes and proportions of livestock varied widely in their returns per \$100 worth of feed fed. The amount of feed fed per acre to productive livestock averaged \$5.42 on the general farms with the most livestock but only \$2.16 on the grain farms.

Differences in expenses are significant for the 4 groups of farms. Labor input was highest on the fruit and truck farms, where 36.7 months of labor were used, and lowest on the grain farms, where 18.5 months of labor were used; horse and machinery cost per crop acre averaged \$6.31 on the fruit and truck farms, \$4.55 on the general farms with the most livestock, \$3.86 on the general farms with the least livestock, and only \$3.17 on the grain farms; improvement costs per acre ranged from \$.35 on the grain farms to \$3.15 on the fruit and truck farms; and land taxes ranged from \$.56 on the fruit and truck farms to \$.96 on the grain farms.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 9, 1939

Items	Total acres in farm		
	51 to 130	131 to 210	211 or more
Number of farms - - - - -	13	24	19
Acres per farm - - - - -	90	169	273
<u>Investments</u>			
Total per farm- - - - -	\$5,856	\$11,714	\$15,648
Total per acre- - - - -	65	69	57
Land per acre - - - - -	30	28	27
Improvements per acre - - - - -	14	24	14
Machinery per acre ^{1/} - - - - -	4.89	6.48	5.92
<u>Earnings</u>			
Per farm			
Gross earnings- - - - -	\$1,296	\$ 2,556	\$ 2,879
Gross expenses ^{2/} - - - - -	1,000	2,116	1,825
Net earnings - - - - -	296	440	1,054
Per acre			
Gross earnings- - - - -	\$ 14.41	\$ 15.16	\$ 10.54
Gross expenses ^{2/} - - - - -	11.12	12.55	6.68
Net earnings - - - - -	3.29	2.61	3.86
Rate earned on investment - - - - -	5.1%	3.8%	6.7%
Labor and management earnings - - - - -	\$ 382	\$ 235	\$ 715
<u>Size and Intensity</u>			
Percent land area tillable- - - - -	83.9	85.7	74.8
Percent tillable land in grain- - - - -	29.0	25.2	37.5
Percent in hay and pasture- - - - -	55.7	51.0	45.4
Feed fed per acre to prod. L. S.- - - - -	\$ 5.46	\$ 3.49	\$ 3.67
Percent of income from prod. L. S.- - - - -	65.5	35.1	48.9
Percent of income from grain- - - - -	11.9	47.2	23.1
Months of labor per 100 crop acres- - - - -	30.2	26.5	16.3
Total months of labor - - - - -	14.4	24.9	22.3
<u>Crop Yields Per Acre</u>			
Corn, bu. - - - - -	37.8	36.4	41.4
Wheat, bu.- - - - -	19.8	17.0	16.3
<u>Livestock Returns</u>			
Per \$100 feed fed - - - - -	\$ 196	\$ 180	\$ 161
Hog returns per litter- - - - -	68	65	47
Dairy returns per cow - - - - -	76	63	70
<u>Expense Factors</u>			
Labor cost per crop acre ^{2/} - - - - -	\$ 11.79	\$ 12.28	\$ 6.19
Labor cost per \$100 gross earnings- - - - -	43	45	29
Horse and machinery cost per crop acre ^{1/} - - - - -	4.93	5.17	3.70
Improvement cost per acre - - - - -	1.23	1.66	.87
Land tax per acre - - - - -	.72	.67	.61

^{1/} Includes farm share of automobile.

^{2/} Includes operator's and family labor.

Size of Farm As Related to Earnings

The farm records in Farming-Type Area 9, when sorted according to the total acres in the farm, indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller farms. The operators on the larger farms took in more money during the year than did the operators on the smaller farms; and after deductions were made for farm business expenditures and interest on the investment, the 19 largest farms had labor and management earnings which averaged \$715 as contrasted with \$382 for the 13 smallest farms. The earnings, as measured by the rate earned on the investment, were also higher for the 19 largest farms. In years when the average rate earned on investment for groups of farms exceeds the capitalization rate (5 percent), the average labor and management earnings are higher on the larger farms than on the smaller ones, but these earnings are lower when the rate earned averages less than the capitalization rate.

The smallest farms were operated more intensively than were the largest farms. This variation was indicated by the higher gross earnings per acre, by the larger proportion of total land tillable, by the higher land values, by the larger amount of feed fed per acre to productive livestock, and by more months of labor per 100 crop acres.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. Averages are calculated for each county in the state from which 30 or more records are received. Such tabulations of farm account records by counties and groups of counties indicate some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and the source of farm income.

The tabulations by counties and by groups of counties may be used by extension specialists, farm advisers, and county program-building committees to represent the type of farm organization and the level of operating efficiency attained by a selected group of progressive farmers in the various parts of a farming-type area. Since the personnel of the accounting group changes slowly, comparisons may be made from county to county and from year to year even though these records are from farms with efficiency which is higher than average.

Influence of Price Changes on Illinois Farm Incomes

All feed and grain, livestock, and other farm property on accounting farms must be valued at both the beginning and the end of the year. Prices at inventory time, therefore, have a marked influence on farm earnings. The influence is greatest where large stocks or supplies are on hand at inventory time; for example, a much larger supply of farm products was found on Illinois farms December 31, 1939, than a year earlier. In fact, grain and livestock inventories have been increasing on Illinois farms since the drouth of 1936 as a result of three years of exceptionally high crop yields and the influence of Agricultural Adjustment Programs which have caused farmers to grow more hay and pasture and to store corn on farms under seal. According to estimates made by the Bureau of Agricultural Economics, U.S.D.A., 356 million bushels of corn were on Illinois farms January 1, 1940, as compared with 325 million bushels January 1 1939.

Livestock numbers on Illinois farms increased sharply in 1939 even though 62 million bushels of 1937 and 1938 corn were placed under seal at the end of the year and 83 million bushels of 1939 corn were sealed by March 31, 1940. The following data indicate the percentage increase in livestock numbers on 2520 accounting farms in Illinois from the beginning to the end of 1939; dairy cows, 2 percent; beef cows, 21 percent; feeder cattle, 17 percent; feeder lambs, 24 percent; brood sows, 4 percent; spring pigs, 38 percent; summer pigs, 23 percent; and fall pigs, 28 percent. Hog numbers have been increasing since 1935 and have now attained record levels; for example, 13.5 sows farrowed per farm on accounting farms in 1939 as contrasted with 9.9 sows farrowed per farm in 1938. The increase in beef cattle numbers is a part of the general up-swing taking place over the entire United States, and it may be expected to continue for several years.

These data indicate that supplies of both feed and livestock were great at the time the 1939 closing inventory was taken than at any other inventory period in several years, and price changes, therefore, are important in interpreting farm earnings for the state and for farming-type areas in 1939.

Prices of important farm products.--Prices for all crops as well as for beef cattle and sheep were higher at the end of 1939 than they were at the beginning, whereas prices for horses, hogs, and poultry were lower. Most of these price increases occurred during the last four months of the year.

December 15, Illinois Farm Prices

	1938	1939	Increase	Decrease
Corn, bu.	\$.42	\$.47	\$.05	\$ --
Oats, bu.	.24	.35	.11	--
Wheat, bu.	.57	.88	.31	--
Soybeans, bu.	.65	.95	.30	--
Hay, tons	6.20	6.50	.30	--
Horses, hd.	88.00	85.00	--	3.00
Hogs, cwt.	7.00	5.10	--	1.90
Beef cattle, cwt.	7.70	8.30	.60	--
Sheep, cwt.	3.45	3.60	.15	--
Chickens, lb.	.13	.11	--	.02

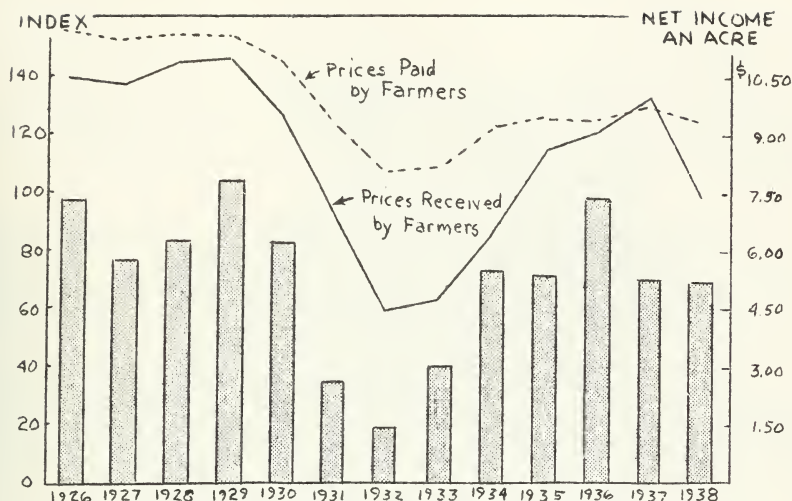


Fig. 1.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1938.

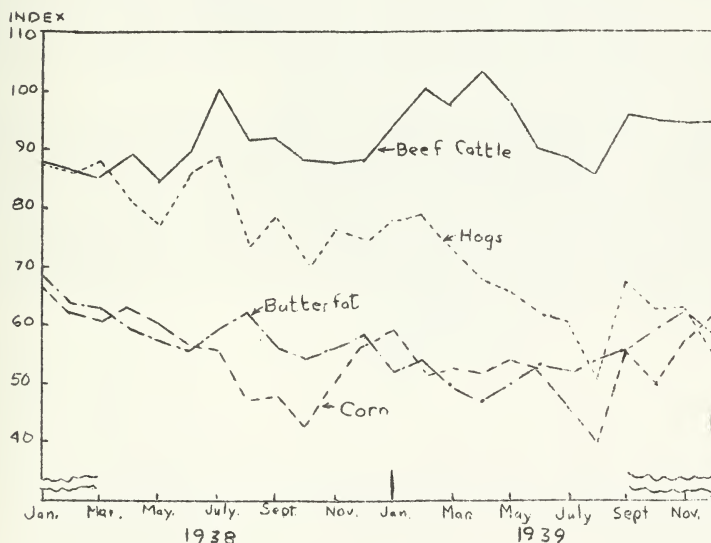


Fig. 2.--Monthly price indices of the average farm prices of corn, hogs, beef cattle, and butterfat, 1938 and 1939. (1924-1929 = 100)

Farm earnings are influenced by the average price received for farm products during the year as well as by the values at inventory time. Although nearly all commodities were higher in price at the end of the year than at the beginning, prices received for the following commodities averaged lower in 1939 than in 1938 by these amounts: corn, 2 cents per bushel; wheat and soybeans, 1 cent per bushel; hogs, \$1.50 per hundred; butterfat, 2 cents per pound; eggs, 3 cents per dozen; and chickens, 2 cents per pound. The prices for other commodities averaged higher in 1939 than in 1938 by the following amounts: oats, 4 cents per bushel; beef cattle, 50 cents per hundred; lambs, 42 cents per hundred; wool, 4 cents per pound; and apples, 12 cents per bushel.

Variation in earnings between the various type-of-farming areas is influenced by the relative prices of grains, livestock, and livestock products. In 1939 as in 1938 livestock had a price advantage over grain, but the advantage was not as marked as it was in 1938. The prices for meat animals dropped from 116 to 110 percent of the 1910-14 average, grains from 74 to 72 percent, chickens and eggs from 106 to 74 percent, and dairy products from 106 to 104 percent.

The corn-hog ratio also narrowed during the year to the disadvantage of the hog enterprise. The amount of corn equal in value to 100 pounds of hogs dropped from 19 bushels in February to 11 bushels in December (based on farm prices). Unfavorable feeding ratios will discourage expansion in hog numbers in 1940.

Crop Yields in Illinois, 1939

Crop yields in Illinois in 1939, as in 1938 and 1937, were unusually high. The weighted average yield of corn, oats, wheat, and soybeans was 133 percent of the 10-year average, 1929-1938. Corn contributed more than did any other crop to the high average yields. The yields of the various crops expressed in percentages of the 1929-1938 averages were: corn, 150; soybeans, 129; wheat, 121; and oats, 97.

Crop yields in all counties except Massac were above the 10-year average (1929-1938 = 100), but wide variations in yields occurred between individual counties and groups of counties. Four counties along the Ohio River had crop-yield indices under 105. In contrast to these counties, 31 were over 136. Many of the counties with the highest yields were in two groups, those located in southwestern and east north central Illinois. Crop-yield indices were adversely affected in southeastern Illinois by the wheat crop and in northern Illinois by low oat yields. Fifty-five counties, which were well-distributed over the state, had crop-yield indices from 121 to 135.

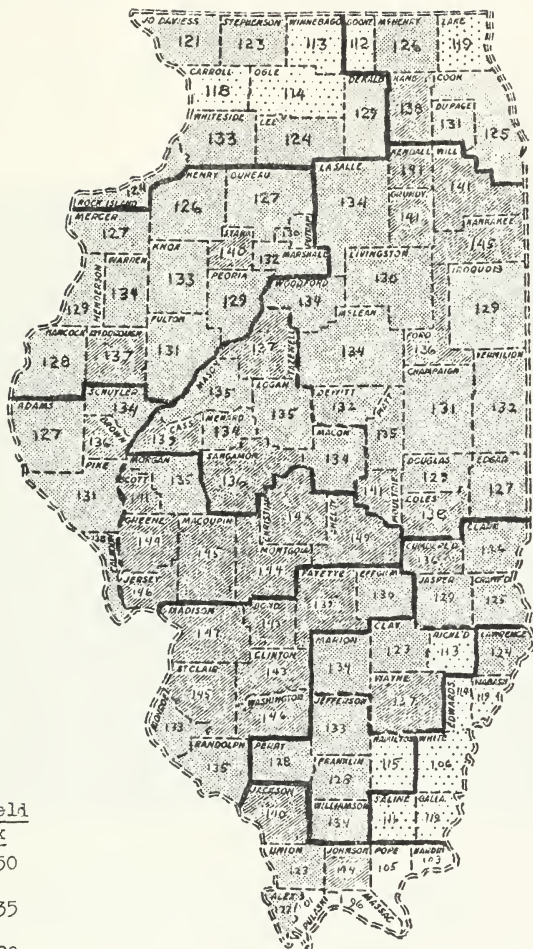


Fig. 3.--Crop yields for 1939, compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1940



FARMING-TYPE AREA ONE Chicago Dairy Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
UREANA, ILLINOIS

Annual Farm Business Report

ON EIGHTY-ONE FARMS IN FARMING-TYPE AREA 1, 1940

By P. E. Johnston, J. B. Cunningham, and E. M. Hughes^{1/}

Farm earnings of accounting farms in Farming-Type Area 1 were much higher in 1940 than in 1939. The average net earnings per acre were \$14.91 in 1940, \$10.64 in 1939, and \$9.55 in 1938. The items considered in calculating the net earnings included: cash receipts; cash expenses; inventory changes; the value of farm products used in the household; and unpaid family labor (Table 1).

Larger incomes for cattle and dairy sales were, to a considerable extent, responsible for larger cash receipts for 1940 than for 1939. The cash expenditures, especially for cattle and improvements, were higher for 1940 than for 1939, but the increase in income was greater than the increase in expenditures; therefore, the cash balance showed a \$871 increase for 1940.

The accounting farms in this report were larger than the average of all the farms in the area; the crop yields were above the average; and the farm operators were more skillful than the average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 8 and Figure 1 are particularly well adapted for such a comparison because they contain measures of earnings and measures

of those management factors which are responsible for major variations in farm earnings.



 Farming-Type Area 1
Dairy and Truck

^{1/} F. J. Reiss supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

J. H. Brock, McHenry County
A. C. Johnson, Kane County
D. M. Chalcraft, Boone County

H. S. Wright, DuPage County
H. C. Gilkerson, Lake County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 1, 1937-1940

Item	Your farm	Average of all farms in area			
		1940	1939	1938	1937
Number of farms- - - - -	--	81	87	78	70
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$	\$ 81	\$ -4	\$ 8	\$ 102
Livestock- - - - -		396	430	87	91
Feed and grain - - - - -		352	374	299	-238
Machinery and equipment- - - - -		42	79	198	216
Automobile (farm share)- - - - -		1	8	-6	--
Total - - - - -	\$	\$ 872	\$ 887	\$ 586	\$ 171
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$	\$ 14	\$ 2	\$ 22	\$ 2
Horses - - - - -		53	35	64	66
Productive livestock: Cattle - - - - -		2 079	1 085	1 042	1 005
Dairy sales - - - - -		2 586	2 130	2 483	3 088
Hogs - - - - -		698	492	582	595
Sheep- - - - -		31	86	126	81
Poultry- - - - -		94	91	79	90
Egg sales- - - - -		205	195	212	186
Total productive livestock - - - - -	()	(5 693)	(4 079)	(4 524)	(5 045)
Feed and grain - - - - -		532	414	366	627
Machinery and equipment- - - - -		181	153	167	186
Automobile (farm share)- - - - -		28	23	10	--
Labor off farm - - - - -		62	38	30	56
Miscellaneous- - - - -		7	9	6	5
AAA payments - - - - -		282	311	137	92
Total- - - - -	\$	\$6 852	\$5 064	\$5 326	\$6 079
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$	\$ 421	\$ 289	\$ 322	\$ 417
Horses - - - - -		52	40	45	87
Productive livestock: Cattle - - - - -		1 255	747	572	495
Hogs - - - - -		46	86	72	67
Sheep- - - - -		34	61	97	64
Poultry- - - - -		37	37	37	32
Total productive livestock - - - - -	()	(1 372)	(931)	(778)	(658)
Feed and grain - - - - -		677	517	476	587
Machinery and equipment- - - - -		810	721	883	961
Automobile (farm share)- - - - -		123	110	79	--
Hired labor- - - - -		523	490	503	468
Miscellaneous- - - - -		28	34	25	30
Crop expense - - - - -		190	178	202	307
Livestock expense- - - - -		79	80	80	87
Taxes- - - - -		276	244	252	253
Total- - - - -	\$	\$4 551	\$3 634	\$3 645	\$3 855
<u>Summary</u>					
Cash balance - - - - -	\$	\$2 301	\$1 430	\$1 681	\$2 224
Farm products used in household ^a / - - - - -		253	241	267	--
Total inventory change - - - - -		872	887	586	171
Receipts less expenses - - - - -	\$	\$3 426	\$2 558	\$2 534	\$2 395
Total unpaid labor - - - - -		743	740	758	796
Net earnings per farm- - - - -	\$	\$2 683	\$1 818	\$1 776	\$1 599
Net earnings per acre- - - - -	\$	\$14.91	\$10.64	\$ 9.55	\$ 8.69

^a/ Not included as income for 1937.

Inventory changes.--The year 1940 was the fourth consecutive year of increasing inventories, ranging from an increase of \$171 in 1937 to \$887 in 1939 (Table 1). One of the largest increases in 1940 was for feed and grain, resulting from increases in grain prices and the quantity of oats, wheat, and soybeans on farms at the end of the year. The average amounts of grain on hand in Area 1 at the two inventory periods follow:

<u>Crop</u>	<u>Beginning of year</u>	<u>End of year</u>
	(bushels)	
Corn	1 996	1 924
Oats	552	953
Wheat	30	39
Soybeans	31	63

Summary of cash receipts and cash expenses.--Cash receipts exceeded cash expenses in 1940 by \$2,301, or by a larger margin than that for any other year during the past four. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The uniformity in valuation of unpaid labor was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$50 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$2,683 in 1940 compared with \$1,818 for 1939. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 1; for example, 15 farms earned less than 5 percent on their investments, with an average rate earned of 2.9 percent, but 40 farms earned 9 percent or more, with an average rate earned of 12.1 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had \$13 for labor and management earnings contrasted with a gain of \$2 758 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

Rate earned on investment (percent)	Number of farms	Average rate earned (percent)	Acres per farm	Capital invested per farm	Gross earnings per farm	Net earnings per farm	Labor and management earnings
Less than 5.0	15	2.9	137	\$21 934	\$3 373	\$ 632	\$ 13
5.0 to 8.9	26	7.3	187	30 664	5 358	2 227	1 244
9.0 or more	40	12.1	191	31 091	7 085	3 749	2 758

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 1, 1940

Item	Your farm	Standards for your farm	Average of all farms
Rate earned on investment- - - - -	_____ %	9.2%	9.2%
Number of farms- - - - -	_____	--	81
Acres in farm - - - - -	_____	180	180
Acres tillable - - - - -	_____	147	147
Acres in crops - - - - -	_____	124	124
Gross earnings per acre- - - - -	\$ _____	\$ _____ ^{a/}	\$30.87
Total expenses per acre- - - - -	_____	_____	15.96
Net earnings per acre - - - - -	\$ _____	\$ _____	\$14.91
<u>Investments</u>			
Value of land per acre - - - - -	\$ _____	\$ 78	\$ 78
Value of improved land per acre- - - - -	_____	_____ ^{a/}	82
Value of improvements per acre - - - - -	_____	35	35
Total investment per acre- - - - -	_____	163	163
<u>Land Use</u>			
Percent of land area tillable- - - - -	_____	_____ ^{a/}	81.7
Percent of tillable land in:			
Corn - - - - -	_____	_____	32.4
Oats - - - - -	_____	_____	17.2
Wheat- - - - -	_____	_____	1.8
Soybeans - - - - -	_____	_____	2.6
Other crops- - - - -	_____	_____	7.5
Legume hay and pasture - - - - -	_____	_____	25.3
Nonlegume hay and pasture- - - - -	_____	_____	13.2
<u>Crop Yields</u>			
Corn, bu.- - - - -	_____	_____ ^{b/}	60.7
Oats, bu.- - - - -	_____	_____	64.5
Barley, bu.- - - - -	_____	_____	49.3
<u>Livestock Factors</u>			
Value of feed fed to productive livestock- - - - -	\$ _____	\$ 2 974	\$2 974
Feed fed per acre to productive livestock- - - - -	_____	_____ ^{c/}	16.52
Returns per \$100 worth of feed fed - - - - -	_____	_____	165
Poultry returns per hen- - - - -	_____	2.77	2.77
Number of litters farrowed - - - - -	_____	11.2	11.2
Number of pigs weaned per litter - - - - -	_____	6.0	6.0
Returns per litter farrowed- - - - -	\$ _____	\$ 78	\$ 78
Average number of cows milked- - - - -	_____	20.2	20.2
Number of cows milked per 100 acres- - - - -	_____	11.2	11.2
Dairy returns per cow milked - - - - -	\$ _____	\$ _____ ^{c/}	\$ 132
<u>Expense Factors</u>			
Machinery cost per crop acre - - - - -	\$ _____	\$ _____ ^{d/}	\$ 5.51
Horse and machinery cost per crop acre - - - - -	_____	_____	6.91
Labor cost per crop acre - - - - -	_____	_____	9.95
Total months of labor- - - - -	_____	_____ ^{e/}	24.3
Number of work horses- - - - -	_____	_____	3.5
Improvement cost per acre- - - - -	\$ _____	\$ _____	\$ 1.81
Taxes per acre- - - - -	_____	_____ ^{a/}	1.33

Source of Standards:

- ^{a/} Table 3, value of land.
^{b/} Fig. 1, value of land.
^{c/} Table 4, source of income.

- ^{d/} Table 6, size of farm and number of milk cows per 100 acres.
^{e/} Table 5, size of farm.

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

[illegible]

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 1, 1940

Item	Value of improved land			
	\$62 or less	\$63 to \$77	\$78 to \$92	\$93 or more
Average value of improved land - - - - -	\$ 54	\$ 72	\$ 84	\$ 106
Number of farms - - - - -	16	22	20	23
Acres per farm - - - - -	187	174	175	186
Percent of land area tillable - - - - -	79.1	80.0	86.1	81.6
Percent of tillable land in:				
Corn- - - - -	32.1	31.8	31.3	33.9
Oats- - - - -	15.2	16.4	16.5	20.0
Wheat - - - - -	.5	2.1	1.6	2.5
Soybeans- - - - -	.6	2.1	2.6	4.6
Other crops - - - - -	9.6	8.4	7.5	5.4
Legume hay and pasture- - - - -	29.7	27.6	24.7	23.1
Nonlegume hay and pasture - - - - -	12.3	11.6	15.8	10.5
Gross earnings per acre - - - - -	\$28.65	\$32.57	\$31.64	\$30.39
Total expenses per acre - - - - -	15.68	17.52	16.95	14.08
Net earnings per acre - - - - -	\$12.97	\$15.05	\$14.69	\$16.31
Land tax per acre - - - - -	\$ 1.10	\$ 1.29	\$ 1.37	\$ 1.49

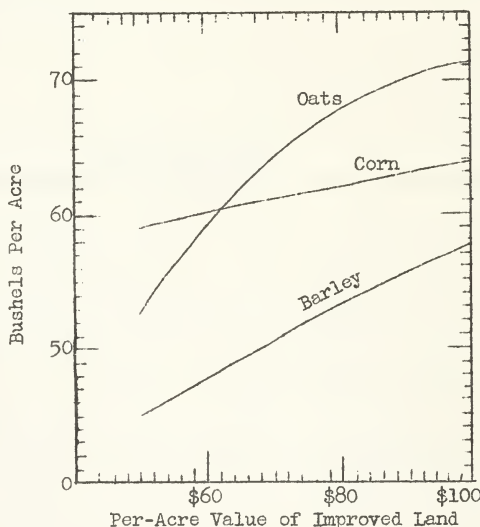


Fig. 1.--Average yields of corn, oats, and barley with varying values of improved land.

Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts; (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per \$100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The variable standards for your farms (Table 2) are taken from Tables 3 to 6 and from Figure 1. They are classified as follows:

Table 3 - Value of improved land.

Gross earnings, total expenses, and net earnings per acre.
All items in the land-use section (Table 2).
Land tax per acre.

Figure 1 - Value of improved land.

Yields for corn, oats, and barley

Table 4 - Source of income.

Feed fed per acre to productive livestock.
Returns per \$100 worth of feed fed.
Dairy returns per cow.

Table 5 - Size of farm.

Total months of labor
Number of work horses.
Improvements cost per acre

Table 6 - Size of farm and number of milk cows per 100 acres.

Horse and machinery cost per crop acre.
Labor cost per crop acre.

The terms used in the tables are the same as those used in the Illinois Farm Account Book. For example, "improved land" is classified on Page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on page 18, line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields.--The percent of tillable land in grain crops and "other crops" increased from 58 to 66.4 as the value per acre for improved land increased from an average of \$54 to \$106 (Table 3). Likewise, the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, wheat, and soybeans increased as the land value increased from \$50 per acre to \$100 per acre (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and net income per acre were high or low for 1940 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 1, 1940

Item	Source of income			
	Dairy sales 40%+	Cattle 40%+	General farms	
			L.S. 60%+	L.S. 60%+
Number of farms - - - - -	55	9	7	10
Percent of income from prod. l.s. -	87.1	93.9	44.4	84.5
Percent of income from crops - - -	1.8	--	41.0	1.7
<u>Investments</u>				
Total per farm - - - - -	\$26 508	\$46 446	\$35 104	\$24 821
Total per acre - - - - -	163	173	151	158
Land per acre - - - - -	73	84	93	81
Improvements per acre - - - - -	40	29	22	32
Machinery per acre - - - - -	12.85	11.74	9.42	14.39
<u>Earnings</u>				
Per farm				
Gross earnings - - - - -	\$ 5 361	\$ 8 858	\$ 5 003	\$ 4 401
Gross expenses - - - - -	<u>2 844</u>	<u>4 088</u>	<u>2 615</u>	<u>2 479</u>
Net earnings - - - - -	\$ 2 517	\$ 4 770	\$ 2 388	\$ 1 922
Per acre				
Gross earnings - - - - -	\$ 32.89	\$ 33.03	\$ 21.51	\$ 28.00
Gross expenses - - - - -	<u>17.45</u>	<u>15.24</u>	<u>11.24</u>	<u>15.77</u>
Net earnings - - - - -	\$ 15.44	\$ 17.79	\$ 10.27	\$ 12.23
Rate earned on investment - - -	9.5%	10.3%	6.8%	7.7%
Labor and management earnings - -	\$ 1 753	\$ 2 909	\$ 1 104	\$ 1 251
<u>Size and Intensity</u>				
Acres per farm - - - - -	163	268	233	157
Percent of land area tillable - -	81.1	85.1	80.6	81.5
Percent tillable land in grain - -	56.1	68.3	66.5	60.5
Percent in hay and pasture - - -	42.4	31.3	30.8	35.5
Feed fed per acre to prod. l.s. -	\$ 16.72	\$ 21.33	\$ 8.52	\$ 16.33
Months of labor per 100 crop A. -	22.9	12.5	13.6	20.1
Total months of labor - - - - -	24.7	24.7	23.8	22.0
<u>Crop Yields per Acre</u>				
Corn bu. - - - - -	62.0	61.1	56.7	58.9
Oats, bu. - - - - -	62.0	74.9	61.9	65.4
<u>Livestock Returns</u>				
Per \$100 feed fed - - - - -	\$ 177	\$ 148	\$ 120	\$ 155
Hog returns per litter - - - - -	75	92	48	88
Dairy returns per cow - - - - -	135	139	97	107
<u>Expense Factors</u>				
Labor cost per crop acre - - - -	\$ 11.45	\$ 6.81	\$ 6.00	\$ 9.39
Horse and machinery cost				
per crop acre - - - - -	7.64	6.08	4.65	6.85
Improvement cost per acre - - -	2.04	1.23	.93	2.09
Land tax per acre - - - - -	1.31	1.25	1.40	1.53

Source of income.--The grouping of accounting farms according to source of income for 1940 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that cattle farms showed a larger rate earned on the investment for 1940 than the dairy farms, does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1940 was due largely to conditions affecting price and production.

When comparing the returns on the various groups of farms per \$100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per \$100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117.

Differences in expenses, are highly significant for the four groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 22.9 months of labor were used, and lowest on the cattle farms, where 12.5 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from \$6.00 on the general farms having the least amount of livestock to \$11.45 on the dairy farms, and the horse and machinery cost per crop acre was also highest on the dairy farms, where it averaged \$7.64 and lowest on the general farms having the least amount of livestock where it averaged \$4.65.

Size of farm.--When the farm records in Farming-Type Area are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 26 largest farms had labor and management earnings which averaged \$2,684 contrasted with \$931 for the 22 smallest farms. The smaller farms had higher investments per acre for land, machinery, and total investment, indicating a higher capital input. The rate earned on investment was greater for the large farms than for the small ones.

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the much higher gross earnings per acre, by a larger value of feed fed per acre to productive livestock, and by a larger labor input per 100 crop acres. The 26 largest farms, however, had the largest net income per acre.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 1, 1940

Item	Total acres in farm		
	130 or less	131 to 190	191 or more
Number of farms - - - - -	22	33	26
Acres per farm- - - - -	102	162	270
<u>Investments</u>			
Total per farm- - - - -	\$17 515	\$27 474	\$41 460
Total per acre- - - - -	172	170	154
Land per acre - - - - -	80	79	77
Improvements per acre - - - - -	37	41	31
Machinery per acre- - - - -	15.04	14.00	10.45
<u>Earnings</u>			
Per farm			
Gross earnings- - - - -	\$ 3 652	\$ 5 184	\$ 7 872
Gross expenses- - - - -	2 376	2 748	3 685
Net earnings - - - - -	\$ 1 276	\$ 2 436	\$ 4 187
Per acre			
Gross earnings- - - - -	\$ 35.88	\$ 32.10	\$ 29.21
Gross expenses- - - - -	23.34	17.02	13.67
Net earnings - - - - -	\$ 12.54	\$ 15.08	\$ 15.54
Rate earned on investment - - - - -	7.3%	8.9%	10.1%
Labor and management earnings - - - - -	\$ 931	\$ 1 594	\$ 2 684
<u>Size and Intensity</u>			
Percent of land area tillable - - - - -	80.3	81.1	82.8
Percent tillable land in grain- - - - -	56.2	57.2	62.9
Percent in hay and pasture- - - - -	40.0	41.4	35.8
Feed fed per acre to productive livestock - - - - -	\$ 20.30	\$ 17.35	\$ 14.69
Percent of income from productive livestock - - - - -	87.5	87.1	80.7
Percent of income from crops- - - - -	--	8.6	10.4
Months of labor per 100 crop acre - - - - -	28.9	21.0	15.7
Total months of labor- - - - -	20.2	22.8	29.7
Number of work horses - - - - -	2.9	3.5	4.0
<u>Crop Yields per Acre</u>			
Corn, bu. - - - - -	58.9	64.1	59.2
Oats, bu. - - - - -	64.0	69.6	60.2
<u>Livestock Returns</u>			
Per \$100 feed fed - - - - -	\$ 164	\$ 167	\$ 165
Hog returns per litter- - - - -	64	90	70
Dairy returns per cow - - - - -	135	133	129
<u>Expense Factors</u>			
Labor cost per crop acre- - - - -	\$ 14.47	\$ 10.38	\$ 7.78
Horse and machinery cost per crop acre- - - - -	8.34	7.52	6.01
Improvement cost per acre - - - - -	1.90	2.12	1.55
Land tax per acre - - - - -	1.51	1.36	1.26

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses.--Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Therefore, the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and the number of milk cows per 100 acres (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND NUMBER OF MILK COWS PER 100 ACRES
Accounting Farms in Farming-Type Area 1, 1940

Acres per farm	Number of milk cows per 100 acres			Number of milk cows per 100 acres		
	5	13	21	5	13	21
	to	to	or	to	to	or
	12	20	more	12	20	more
	(labor cost per crop acre)			(horse and machinery cost per crop acre)		
130 or less	\$11.90	\$12.80	\$18.00	\$7.55	\$8.40	\$8.75
131 to 190	7.70	10.50	12.00	6.40	7.45	8.65
191 or more	6.30	9.60	10.80	5.35	6.70	7.40

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and source of farm income. (Tables 7 and 8).

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 1, 1940

Item	Your farm	Average of all farms	McHenry	DuPage, Lake, Kane, Boone
Number of farms - - - - -		81	35	46
<u>Capital Investments</u>				
Land - - - - -	\$	\$14 034	\$11 255	\$16 149
Farm improvements - - - - -		6 350	6 657	6 117
Horses - - - - -		394	411	381
Productive livestock: Cattle - - - - -		3 428	3 309	3 518
Hogs - - - - -		379	241	484
Sheep - - - - -		41	12	64
Poultry - - - - -		131	131	131
<u>Total productive livestock - - - - -</u>	()	(3 979)	(3 693)	(4 197)
Feed and grain - - - - -		2 260	1 996	2 461
Machinery and equipment - - - - -		2 085	2 022	2 132
Automobile (farm share) - - - - -		156	153	158
<u>Total - - - - -</u>	\$	\$29 258	\$26 187	\$31 595
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$	\$ --	\$ --	\$ --
Productive livestock: Cattle - - - - -		1 200	638	1 626
Dairy sales - - - - -		2 586	3 320	2 028
Hogs - - - - -		668	424	854
Sheep - - - - -		26	6	41
Poultry - - - - -		60	46	71
Egg sales - - - - -		205	207	204
<u>Total productive livestock - - - - -</u>	()	(4 745)	(4 641)	(4 824)
Farm products used in household - - - - -		253	222	277
Feed and grain - - - - -		207	121	274
Labor off farm - - - - -		62	43	75
Miscellaneous - - - - -		7	3	11
AAA payments - - - - -		282	322	251
<u>Total - - - - -</u>	\$	\$ 5 556	\$ 5 352	\$ 5 712
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$	\$ 326	\$ 325	\$ 328
Horses - - - - -		27	30	24
Productive livestock - - - - -		--	--	--
Feed and grain - - - - -		--	--	--
Machinery and equipment - - - - -		587	553	612
Automobile (farm share) - - - - -		94	96	93
Hired labor - - - - -		523	522	523
Miscellaneous - - - - -		28	27	29
Crop expense - - - - -		190	179	199
Livestock expense - - - - -		79	84	76
Taxes - - - - -		276	250	296
<u>Total - - - - -</u>	\$	\$ 2 130	\$ 2 066	\$ 2 180
Receipts less expenses - - - - -	\$	\$ 3 426	\$ 3 286	\$ 3 532
Family labor - - - - -		199	248	162
Returns for labor, capital, mgt. - - - - -	\$	\$ 3 227	\$ 3 038	\$ 3 370
Operator's labor - - - - -		544	564	528
Returns for capital and mgt. - - - - -		\$ 2 683	\$ 2 474	\$ 2 842
<u>Rate Earned on Investment - - - - -</u>	%	9.2%	9.4%	9.0%
Interest on investment - - - - -	\$	\$ 1 463	\$ 1 309	\$ 1 580
<u>Labor and Management Earnings - - - - -</u>		1 764	1 729	1 790
Nonfarm income - - - - -	\$	\$ 47	\$ 48	\$ 43

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 1, 1940

Item	Average of all farms	McHenry	DuPage, Lake, Kane, Boone
Rate earned on investment- - - - -	9.2%	9.4%	9.0%
Acres in farm- - - - -	180	172	186
Acres tillable - - - - -	147	136	156
Acres in crops - - - - -	124	111	134
Gross earnings per acre- - - - -	\$30.87	\$31.19	\$30.64
Total expenses per acre ^a / - - - - -	15.96	16.77	15.39
Net earnings per acre- - - - -	\$14.91	\$14.42	\$15.25
<u>Investments</u>			
Value of land per acre - - - - -	\$ 78	\$ 66	\$ 87
Value of improved land per acre- - - - -	82	70	90
Value of improvements per acre - - - - -	35	39	33
Total investment per acre- - - - -	163	153	170
<u>Land Use</u>			
Percent of land area tillable- - - - -	81.7	79.4	83.4
Percent of tillable land in:			
Corn - - - - -	32.4	32.7	32.0
Oats - - - - -	17.2	16.4	17.8
Wheat - - - - -	1.8	1.5	1.9
Soybeans - - - - -	2.6	1.1	3.7
Other crops - - - - -	7.5	7.5	7.6
Legume hay and pasture - - - - -	25.3	26.4	24.5
Nonlegume hay and pasture- - - - -	13.2	14.4	12.5
<u>Crop Yields</u>			
Corn, bu.- - - - -	60.7	61.0	60.7
Oats, bu.- - - - -	64.5	57.1	68.7
Barley, bu.- - - - -	49.3	53.6	46.3
Soybeans, bu.- - - - -	17.4	20.7	16.7
<u>Livestock Factors</u>			
Value of feed fed ro productive l.s.	\$2 974	\$2 706	\$3 177
Feed fed per acre to productive l.s.	16.52	15.77	17.04
Returns per \$100 worth of feed fed -	165	177	158
Poultry returns per hen- - - - -	2.77	2.42	3.08
Number of litters farrowed - - - - -	11.2	7.5	14.4
Number of pigs weaned per litter - -	6.0	6.1	5.9
Returns per litter farrowed- - - - -	\$ 78	\$ 70	\$ 82
Average number of cows milked- - - -	20.2	26.1	15.7
Dairy returns per cow milked - - - -	\$ 132	\$ 130	\$ 134
<u>Expense Factors</u>			
Machinery cost per crop acre ^b / - - -	\$ 5.51	\$ 5.86	\$ 5.28
Horse and machinery cost per crop A.	6.91	7.56	6.49
Labor cost per crop acre ^b / - - - -	9.95	11.65	8.79
Total months of labor- - - - -	24.3	25.7	23.2
Number of work horses- - - - -	3.5	3.6	3.5
Improvement cost per acre- - - - -	\$ 1.81	\$ 1.89	\$ 1.76
Taxes per acre- - - - -	1.53	1.46	1.59

a/ Includes operator's and family labor.

b/ Includes farm share of automobile.

Influence of Price Changes on Illinois Farm Incomes

Prices of important farm products.--Prices of most livestock and livestock products were higher at the end of 1940 than at the beginning, but prices of all grains except corn were lower.

Although many commodities were lower in price at the end of the year than at the beginning, all the principal Illinois farm products except horses and hogs averaged higher in 1940 than in 1939. The index of all Illinois farm prices averaged 5 percent higher in 1940 than in 1939. The increases for the various groups were as follows: grains, 25 percent; dairy products, 8 percent; fruits, 6 percent; and chickens and eggs, 3 percent. Meat animals decreased 4 percent because of the lower price of hogs.

A great deal of the variation in earnings between the different types of farming in Illinois is due to the constantly shifting ratios between the prices of various livestock products and between those of livestock products and grains. During 1940, the price of beef cattle was materially higher than that of hogs, other livestock, and livestock products. Likewise, the ratio of the price of cattle to the price of corn was much more favorable to the cattle feeder than to the hog feeder. In 1940, 9.2 bushels of corn equaled in value 100 pounds of live hog compared with an average of 15.4 bushels in 1939. During the fall breeding season, the ratio was very unfavorable to the hog producer.

<u>Farm product</u>	<u>December 15 farm prices</u>		<u>Average yearly farm prices</u>	
	<u>1939</u>	<u>1940</u>	<u>1939</u>	<u>1940</u>
Corn, bu.	\$.47	\$.52	\$.43	\$.56
Wheat, bu.	.88	.79	.67	.81
Oats, bu.	.35	.33	.28	.32
Barley, bu.	.44	.49	.41	.46
Soybeans, bu.	.95	.81	.74	.83
Hay, ton	6.50	7.30	6.05	6.68
Horses, head	85.00	74.00	85.00	77.00
Hogs, cwt.	5.10	5.80	6.56	5.54
Beef cattle, cwt.	8.30	9.80	8.18	8.84
Lambs, cwt.	8.20	8.80	8.18	8.52
Milk cows, head	65.00	68.00	63.00	65.00
Milk, cwt.	1.80	2.00	1.59	1.68
Butterfat, lb.	.26	.34	.23	.27
Chickens, lb.	.11	.13	.13	.13
Eggs, doz.	.19	.27	.16	.17

Variations in supplies.--Prices of farm products at inventory time influence farm earnings, because all feed, grain, livestock, and other farm property must be valued at the beginning of the year and at the end. The influence is greatest where large stocks are on hand at inventory time. Abundant feed supplies and increasing inventories have characterized the years since the drouth year of 1936. In 1940, however, the rather spotted crop situation resulted in somewhat low inventories of feed on some farms and large feed supplies on others. For the state as a whole, the corn reserves on January 1, 1941, were the smallest since 1937, reflecting not only the smaller crop but also the smaller amount of sealing that took place under the loan program. Supplies of other feed and grain crops were larger on January 1, 1941, than in 1940. According to the Division of Agricultural Statistics at Springfield, the supplies of the four major grain crops on Illinois farms on January 1, 1940, and 1941, were as follows:

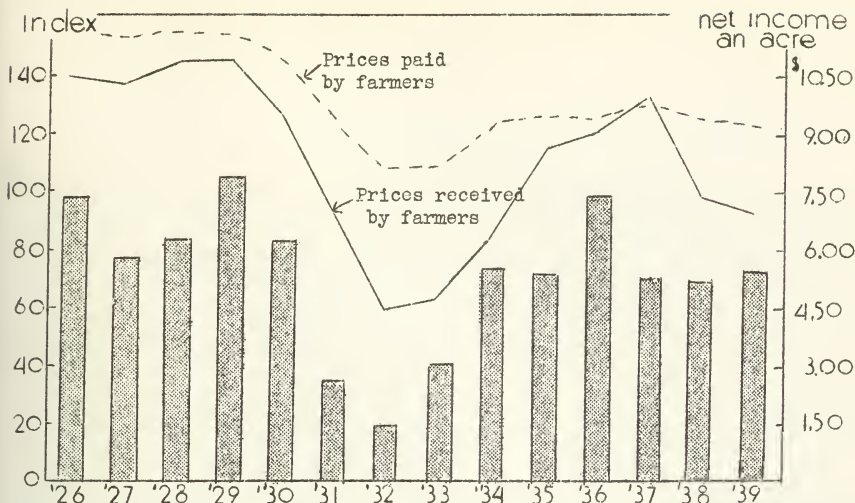


Fig. 2.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1939.

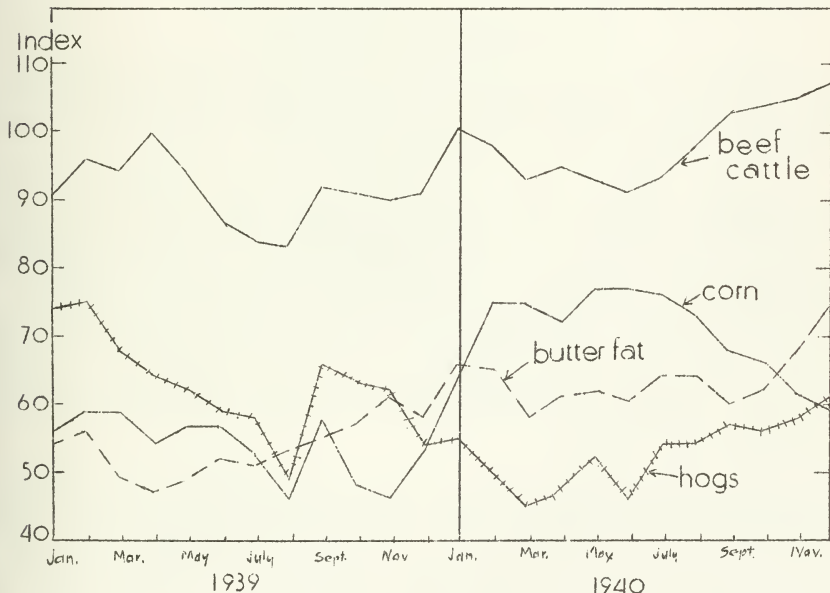


Fig. 3.--Indices of the average monthly farm prices of corn, hogs, butterfat, and beef cattle, 1939 and 1940. (1924-1929 = 100)

<u>Type of grain</u>	<u>1940</u> (million bushels)	<u>1941</u> (million bushels)
Corn	351	280
Oats	57	98
Wheat	5	8
Soybeans	15	17

On accounting farms, all livestock numbers increased in 1939 over 1938. In 1940, however, only the numbers of milk cows, beef cows, feeder cattle, and fall pigs increased; the numbers of feeder lambs, brood sows, spring pigs, and summer pigs decreased. The following data indicate the percentage increase in livestock numbers on 2,847 accounting farms during the calendar year 1940.

<u>Type of livestock</u>	<u>1940</u> (percent of increase)	<u>Type of livestock</u>	<u>1940</u> (percent of increase)
Milk cows	3	Brood sows	-2
Beef cows	10	Spring pigs	-3
Feeder cattle	12	Summer pigs	-2
Feeder lambs	- 2	Fall pigs	+9

The increase in the numbers of milk cows, beef cows, and feeder cattle was general throughout the United States. This upward swing in numbers may be expected to continue for two or three more years. The decrease in the number of brood sows, spring pigs, and summer pigs is much less than that which took place in the corn belt as a whole. Likewise, fall pigs decreased 12 percent in the United States but increased 9 percent on Illinois accounting farms.

Crop Yields in Illinois, 1940

The year 1940 was the fourth consecutive year of high crop yields in Illinois. The weighted average yield of corn, oats, wheat, and soybeans was 128 percent of the 10-year average, 1929-1938, and was within five points of being as high as in 1939, when the average yield was 133 percent.

The 1940 yields of these four crops, as expressed in percentages of the 1929-1938 averages, follow: corn, 126.8; oats, 154.9; wheat, 129.3; and soybeans, 89.2. In 1940 corn yields were higher than the average of the ten years in each of the counties of the state except Clay, Crawford, Franklin, Hardin, Jefferson, Livingston, Marshall, Richland, and Wayne; oat yields were higher in each of the counties except Union; and wheat yields were higher in each of the counties except Calhoun and Cook. Soybean yields, on the other hand, were below the average in all the principal soybean-producing counties. The counties with the highest average yields of the various crops in 1940 compared with those for the base period follow: Randolph county--corn, 170 percent; Grundy county--Oats, 199 percent; Alexander county and Whiteside county--wheat, 159 percent; and Macoupin county--soybeans, 126 percent.

The counties with the highest crop yields were located, for the most part, in northern and southwestern Illinois where weather conditions were particularly favorable for the small-grain crops as well as for the corn crop. On the other hand, the counties with the lowest crop yields were located in the south-central and southeastern areas of the state. Another group of counties which extended diagonally southeast from Knox county had spotted and moderately low crop yields in relation to the crop yields for the rest of the state. The variation in crop yields between counties and groups of counties as well as between communities, townships, and even individual farms was greater than usual in 1940 because of differences in rainfall and other climatic conditions.

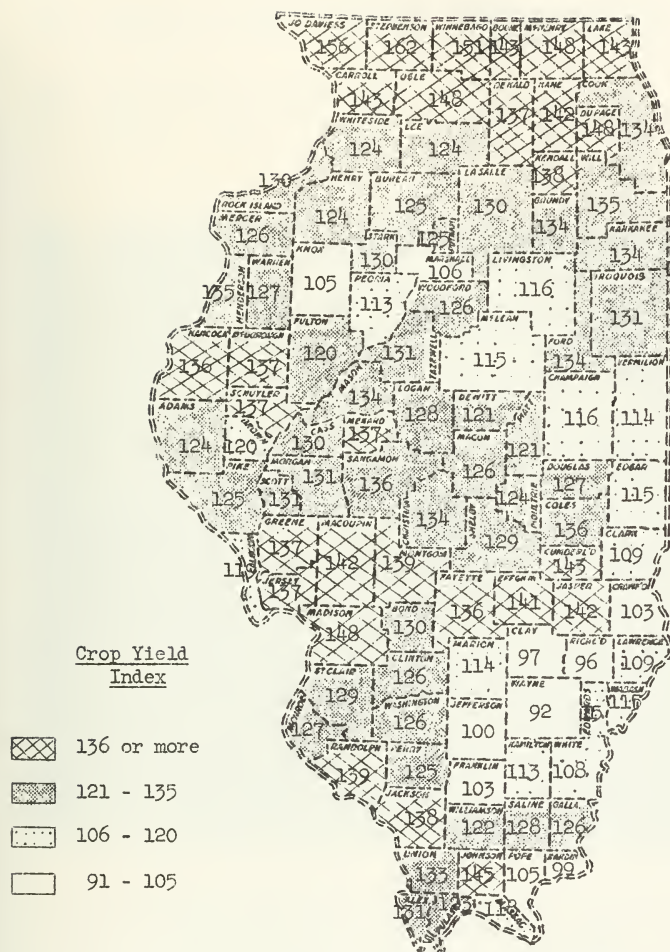


Fig. 4.--Crop yields for 1940 compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1940



FARMING-TYPE AREA TWO Northwestern Mixed Livestock Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON FOUR HUNDRED FIFTY-SIX FARMS IN FARMING-TYPE AREA 2, 1940

By P. E. Johnston, J. B. Cunningham, and E. M. Hughes^{1/}

Farm earnings of accounting farms in Farming-Type Area 2 were higher in 1940 than in 1939. The average net earnings per acre were \$13.51 in 1940, \$12.65 in 1939, and \$9.62 in 1938. The items considered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor (Table 1).



▨ Farming-Type Area 2
Mixed Livestock

Both cash receipts and cash expenses were larger for 1940 than for 1939; the higher net farm earnings for 1940 resulted from a higher cash balance, which more than offset the smaller average inventory increase. Cash receipts from cattle, dairy, and hog sales were larger in 1940 than in 1939.

The accounting farms in this report were larger than the average of all the farms in the area; the crop yields were above the average; and the farm operators were more skillful than the average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 8 and Figure 1 are particularly well adapted for such a comparison because they contain measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

^{1/} F. J. Reiss supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

R. P. Johnson, DeKalb County
V. J. Banter, Stephenson County
C. E. Yale, Lee County
D. E. Warren, Ogle County
R. C. Smith, Rock Island County

H. R. Brunnemeyer, Winnebago County
F. H. Shuman, Whiteside County
H. E. Kearnaghan, Jo Daviess County
M. P. Roske, Carroll County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 2, 1937-1940

Item	Your farm	Average of all farms in area			
		1940	1939	1938	1937
Number of farms- - - - -	--	456	454	382	285
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$ _____	\$ 74	\$ 104	\$ 100	\$ 125
Livestock- - - - -	_____	518	483	130	3
Feed and grain - - - - -	_____	112	521	112	-230
Machinery and equipment- - - - -	_____	63	86	112	330
Automobile (farm share)- - - - -	_____	4	-3	-6	--
Total - - - - -	\$ _____	\$ 771	\$ 1 191	\$ 448	\$ 228
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$ _____	\$ 13	\$ 32	\$ 6	\$ 27
Horses - - - - -	_____	29	44	37	53
Productive livestock: Cattle - - - - -	_____	3 464	2 656	1 912	1 574
Dairy sales- - - - -	_____	822	669	784	1 000
Hogs - - - - -	_____	1 459	1 392	1 629	1 678
Sheep- - - - -	_____	195	205	136	118
Poultry- - - - -	_____	93	87	74	99
Egg sales- - - - -	_____	171	151	170	189
Total productive livestock - - - - -	()	(6 204)	(5 160)	(4 705)	(4 658)
Feed and grain - - - - -	_____	927	842	556	574
Machinery and equipment- - - - -	_____	199	188	192	232
Automobile (farm share)- - - - -	_____	39	32	23	--
Labor off farm - - - - -	_____	38	38	43	75
Miscellaneous- - - - -	_____	9	11	6	9
AAA payments - - - - -	_____	399	576	164	137
Total- - - - -	\$ _____	\$ 7 857	\$ 6 923	\$ 5 732	\$ 5 765
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$ _____	\$ 390	\$ 426	\$ 357	\$ 378
Horses - - - - -	_____	22	28	32	41
Productive livestock: Cattle - - - - -	_____	1 938	1 740	941	635
Hogs - - - - -	_____	96	119	116	95
Sheep- - - - -	_____	107	137	77	57
Poultry- - - - -	_____	31	32	26	29
Total productive livestock - - - - -	()	(2 172)	(2 028)	(1 160)	(816)
Feed and grain - - - - -	_____	827	695	514	569
Machinery and equipment- - - - -	_____	798	778	746	969
Automobile (farm share)- - - - -	_____	146	130	112	--
Hired labor- - - - -	_____	367	362	312	251
Miscellaneous- - - - -	_____	35	33	31	25
Crop expense - - - - -	_____	180	175	174	257
Livestock expense- - - - -	_____	63	66	61	50
Taxes- - - - -	_____	277	266	237	212
Total- - - - -	\$ _____	\$ 5 277	\$ 4 987	\$ 3 736	\$ 3 568
<u>Summary</u>					
Cash balance - - - - -	\$ _____	\$ 2 580	\$ 1 936	\$ 1 996	\$ 2 197
Farm products used in household ^a / - - - - -	_____	247	250	265	--
Total inventory change - - - - -	_____	771	1 191	448	228
Receipts less expenses - - - - -	\$ _____	\$ 3 598	\$ 3 377	\$ 2 709	\$ 2 425
Total unpaid labor - - - - -	_____	736	732	724	777
Net earnings per farm- - - - -	\$ _____	\$ 2 862	\$ 2 645	\$ 1 985	\$ 1 648
Net earnings per acre- - - - -	\$ _____	\$ 13.51	\$ 12.65	\$ 9.62	\$ 8.46

a/ Not included as income for 1937.

Inventory changes.--The year 1940 was the fifth consecutive year of increasing inventories, ranging from an increase of \$1,382 in 1936 to \$228 in 1937 (Table 1). The largest increase in 1940 was for livestock, resulting from increases in prices and the quantity of livestock on farms at the end of the year. The average amounts of grain on hand in Area 2 at the two inventory periods follow:

<u>Crop</u>	<u>Beginning of year</u> (bushels)	<u>End of year</u>
Corn	3 355	2 986
Oats	821	1 228
Wheat	27	50
Soybeans	54	75

Summary of cash receipts and cash expenses.--Cash receipts exceeded cash expenses in 1940 by \$2,580, or by a larger margin than that for any other year during the past four. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The uniformity in valuation of unpaid labor was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$50 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$2,862 in 1940 compared with \$2,645 for 1939. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 2; for example, 26 farms earned less than 3 percent on their investments, with an average rate earned of 1.6 percent, but 77 farms earned 12 percent or more, with an average rate earned of 14.2 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$523 for labor and management earnings contrasted with a gain of \$3,105 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

<u>Rate earned on investment (percent)</u>	<u>Number of farms</u>	<u>Average rate earned (percent)</u>	<u>Acres per farm</u>	<u>Capital invested per farm</u>	<u>Gross earnings per farm</u>	<u>Net earnings per farm</u>	<u>Labor and management earnings</u>
Less than 3.00	26	1.6	194	\$31 126	\$3 648	\$ 512	\$ -523
3.00 to 5.99	83	4.9	223	37 704	5 179	1 849	505
6.00 to 8.99	156	7.5	221	36 906	5 860	2 770	1 490
9.00 to 11.99	114	10.3	204	34 557	6 573	3 543	2 386
12.00 or more	77	14.2	199	27 671	6 804	3 105	3 105

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 2, 1940

Item	Your farm	Standards for your farm	Average of all farms
Rate earned on investment- - - - -	_____ %	8.3%	8.3%
Number of farms- - - - -	--	--	456
Acres in farm - - - - -	_____	212	212
Acres tillable - - - - -	_____	177	177
Acres in crops - - - - -	_____	142	142
Gross earnings per acre- - - - -	\$ _____	\$ _____ a/	\$25.92
Total expenses per acre- - - - -	_____	_____	12.41
Net earnings per acre- - - - -	\$ _____	\$ _____	\$13.51
<u>Investments</u>			
Value of land per acre - - - - -	\$ _____	\$ 92	\$ 92
Value of improved land per acre- - - - -	_____	a/	98
Value of improvements per acre - - - - -	_____	28	28
Total investment per acre- - - - -	_____	163	163
<u>Land Use</u>			
Percent of land area tillable- - - - -	_____	a/	83.4
Percent of tillable land in:			
Corn - - - - -	_____	_____	31.4
Oats - - - - -	_____	_____	20.0
Wheat- - - - -	_____	_____	1.3
Soybeans - - - - -	_____	_____	3.3
Other crops- - - - -	_____	_____	7.6
Legume hay and pasture - - - - -	_____	_____	24.1
Nonlegume hay and pasture- - - - -	_____	_____	12.3
<u>Crop Yields</u>			
Corn, bu.- - - - -	_____	b/	64.2
Oats, bu.- - - - -	_____	_____	60.2
Wheat, bu.- - - - -	_____	_____	30.0
Soybeans, bu.- - - - -	_____	_____	20.7
<u>Livestock Factors</u>			
Value of feed fed to productive livestock- - -	\$ _____	\$ 3 257	\$3 257
Feed fed per acre to productive livestock- - -	_____	c/	15.38
Returns per \$100 worth of feed fed - - - - -	_____	_____	146
Poultry returns per hen- - - - -	_____	2.64	2.64
Number of litters farrowed - - - - -	_____	17.8	17.8
Number of pigs weaned per litter - - - - -	_____	6.2	6.2
Returns per litter farrowed- - - - -	\$ _____	\$ 86	\$ 86
Average number of cows milked- - - - -	_____	9.5	9.5
Dairy returns per cow milked - - - - -	\$ _____	\$ c/	\$ 95
<u>Expense Factors</u>			
Machinery cost per crop acre - - - - -	\$ _____	\$ _____	\$ 4.48
Horse and machinery cost per crop acre - - -	_____	d/	5.46
Labor cost per crop acre - - - - -	_____	_____	7.47
Total months of labor- - - - -	_____	e/	21.3
Number of work horses- - - - -	_____	_____	3.0
Improvement cost per acre- - - - -	\$ _____	\$ _____	\$ 1.43
Taxes per acre- - - - -	_____	a/	1.31

Source of Standards:

a/ Table 3, value of land.

b/ Figure 1, value of land.

c/ Table 4, source of income.

d/ Table 6, size of farm and value of feed fed.

e/ Table 5, size of farm.

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

[illegible]

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 2, 1940

Item	Value of improved land					
	\$52 or less	\$53 to \$72	\$73 to \$92	\$93 to \$112	\$113 to \$132	\$132 or more
Average value of improved land - -	\$ 45	\$ 64	\$ 82	\$ 102	\$ 123	\$ 142
Number of farms - - - - -	40	78	105	91	90	52
Acres per farm - - - - -	229	200	191	202	237	231
Percent of land area tillable - -	67.6	76.8	81.2	86.4	89.7	92.2
Percent of tillable land in:						
Corn - - - - -	24.4	27.9	29.6	31.9	34.6	35.5
Oats - - - - -	16.3	20.2	19.8	19.7	22.2	19.2
Wheat - - - - -	1.2	.7	1.5	2.2	1.2	1.3
Soybeans - - - - -	1.5	1.5	2.7	2.7	4.4	6.0
Other crops - - - - -	7.0	5.7	7.2	7.7	7.8	8.7
Legume hay and pasture - - -	29.1	28.8	27.9	24.4	21.8	24.9
Nonlegume hay and pasture - -	20.5	15.2	11.3	11.4	8.0	4.4
Gross earnings per acre - - - -	\$17.78	\$23.85	\$25.41	\$26.66	\$26.55	\$33.43
Total expenses per acre - - - -	<u>8.97</u>	<u>11.69</u>	<u>12.19</u>	<u>12.71</u>	<u>13.01</u>	<u>14.81</u>
Net earnings per acre - - - -	\$ 8.81	\$12.16	\$13.22	\$13.95	\$13.54	\$18.62
Land tax per acre - - - - -	\$.87	\$.99	\$ 1.11	\$ 1.20	\$ 1.29	\$ 1.33

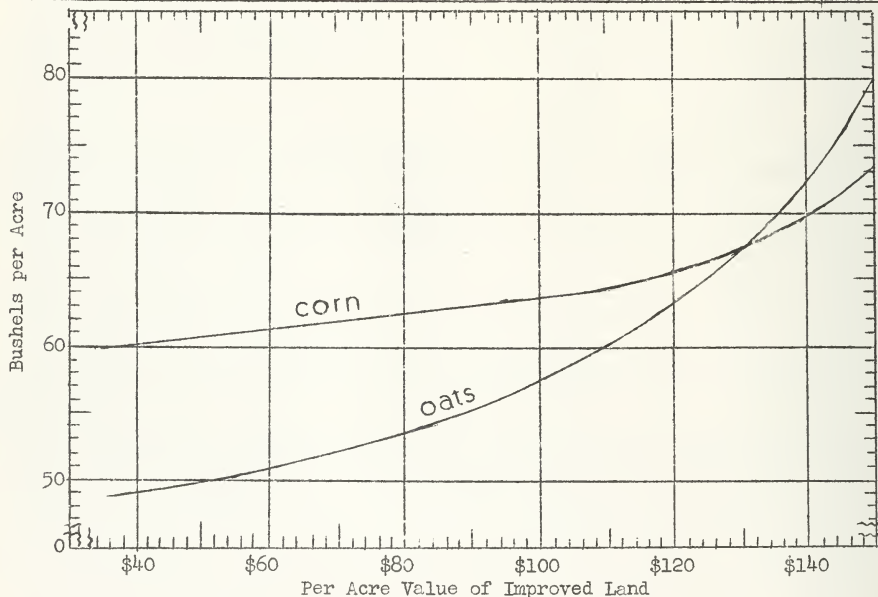


Fig. 1.--Average yields of corn and oats with varying values of improved land.

Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts; (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per \$100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The variable standards for your farms (Table 2) are taken from Tables 3 to 6 and from Figure 1. They are classified as follows:

Table 3 - Value of improved land.

Gross earnings, total expenses, and net earnings per acre.
All items in the land-use section (Table 2).
Land tax per acre.

Figure 1 - Value of improved land.

Yields for corn, and oats.

Table 4 - Source of income.

Feed fed per acre to productive livestock.
Returns per \$100 worth of feed fed.
Dairy returns per cow.

Table 5 - Size of farm.

Total months of labor
Number of work horses.
Improvements cost per acre

Table 6 - Size of farm and amount of feed fed per acre.

Horse and machinery cost per crop acre.
Labor cost per crop acre.

The terms used in the tables are the same as those used in the Illinois Farm Account Book. For example, "improved land" is classified on page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on page 18, line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields.--The percent of tillable land in grain crops and "other crops" increased from 50 to 71 as the value per acre for improved land increased from an average of \$45 to \$142 (Table 3). Likewise, the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, wheat, and soybeans increased as the land value increased from \$45 per acre to \$142 per acre (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and net income per acre were high or low for 1940 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 2, 1940

Item	Source of income					
	Grain 40%+	Dairy sales 40%+	Hogs 40%+	Cattle 40%+	General farms	
					L.S. 60%-	L.S. 60%+
Number of farms - - - - -	30	45	48	120	50	163
Percent of income from prod. l.s.	34.6	87.3	89.2	90.3	52.8	80.0
Percent of income from crops - -	53.7	--	--	--	31.3	6.1
<u>Investments</u>						
Total per farm- - - - -	\$42 169	\$24 502	\$28 225	\$46 451	\$32 080	\$29 850
Total per acre- - - - -	168	159	171	183	154	146
Land per acre - - - - -	111	77	94	102	95	81
Improvements per acre - - - -	22	37	31	29	23	26
Machinery per acre- - - - -	9.68	12.39	12.92	11.51	9.96	9.79
<u>Earnings</u>						
Per farm						
Gross earnings - - - - -	\$ 6 074	\$ 4 270	\$ 5 243	\$ 8 064	\$ 5 013	\$ 4 824
Gross expenses - - - - -	2 632	2 495	3 160	4 003	2 380	2 352
Net earnings- - - - -	\$ 3 442	\$ 1 775	\$ 2 083	\$ 4 061	\$ 2 633	\$ 2 472
Per acre						
Gross earnings- - - - -	\$ 24.22	\$ 27.78	\$ 31.85	\$ 31.80	\$ 24.00	\$ 23.58
Gross expenses- - - - -	10.50	16.23	19.20	15.79	11.39	11.50
Net earnings- - - - -	\$ 13.72	\$ 11.55	\$ 12.65	\$ 16.01	\$ 12.61	\$ 12.08
Rate earned on investment - - -	8.2%	7.2%	7.4%	8.7%	8.2%	8.3%
Labor and management earnings -	\$ 1 868	\$ 1 118	\$ 1 248	\$ 2 288	\$ 1 603	\$ 1 540
<u>Size and Intensity</u>						
Acres per farm- - - - -	251	154	165	254	209	205
Percent of land area tillable -	89.7	79.8	84.6	85.9	86.1	79.5
Percent tillable land in grain-	69.1	52.0	59.6	60.3	60.2	54.5
Percent in hay and pasture- - -	24.3	43.6	38.2	34.6	32.7	40.3
Feed fed per acre to prod. l.s.	\$ 6.29	\$ 15.96	\$ 21.48	\$ 20.56	\$ 9.07	\$ 13.11
Months of labor per 100 crop A.	9.8	21.5	18.2	13.5	13.0	16.4
Total months of labor - - - - -	19.1	20.5	20.3	24.0	19.0	21.0
<u>Crop Yields per acre</u>						
Corn, bu. - - - - -	61.4	66.1	67.1	66.3	61.4	63.0
Oats, bu. - - - - -	58.0	59.8	60.5	64.0	60.0	57.1
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 142	\$ 158	\$ 137	\$ 143	\$ 149	\$ 150
Hog returns per litter- - - - -	84	85	98	89	72	81
Dairy returns per cow - - - - -	74	119	92	89	86	91
<u>Expense Factors</u>						
Labor cost per crop acre- - - -	\$ 4.79	\$ 10.49	\$ 9.14	\$ 7.06	\$ 6.33	\$ 7.96
Horse and machinery cost- - - -						
per crop acre - - - - -	4.09	7.46	6.20	5.75	4.84	5.18
Improvement cost per acre - - -	1.19	1.82	1.65	1.60	1.21	1.27
Land tax per acre - - - - -	1.22	1.17	1.15	1.20	1.22	1.08

Source of income.--The grouping of accounting farms according to source of income for 1940 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that cattle farms showed the largest rate earned on the investment for 1940 and that dairy farms showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1940 was due largely to conditions affecting price and production.

When comparing the returns on the various groups of farms per \$100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per \$100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117.

Furthermore, when comparing crop yields for the various types of farming, one should note the following items which indicate that the grain farms were located on the better land: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; and (4) high land tax per acre.

Differences in expenses, on the other hand, are highly significant for the six groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 21.5 months of labor were used, and lowest on the grain farms, where 9.8 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from \$10.49 on the dairy farms to \$4.79 on the grain farms; the horse and machinery cost per crop acre was highest on the dairy farms, where it averaged \$7.46, and lowest on the grain farms, where it averaged \$4.09; the improvement cost per acre averaged \$1.82 on the dairy farms and \$1.19 on the grain farms.

Size of farm.--When the farm records in Farming-Type Area 2 are sorted according to the total acres in the farm, they indicate that the largest farms had a greater total investment in land, improvements, and equipment than did the smallest ones. The operators on the largest farms took in more money during the year than did those on the smallest ones; and, after deductions were made for farm business expenditures and interest on the investment, the 14 largest farms had labor and management earnings which averaged \$3,540 contrasted with \$1,039 for the 74 smallest farms. The latter had higher investments per acre for improvements, machinery, and total investment, indicating a higher capital input. The rate earned on investment was largest for the farms which ranged from 121 to 200 acres in size.

The smallest farms were operated more intensively than were the larger ones. This variation was indicated by the much higher gross earnings per acre and by the larger labor and capital input per acre, the larger value of feed fed per acre to productive livestock, and the higher crop yields.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 2, 1940

Item	Total acres in farm					
	41 to 120	121 to 200	201 to 280	281 to 360	361 to 440	441 or more
Number of farms - - - - -	74	202	92	52	22	1
Acres per farm - - - - -	103	166	241	316	394	582
<u>Investments</u>						
Total per farm- - - - -	\$17 427	\$27 574	\$39 325	\$49 999	\$61 824	\$94 887
Total per acre- - - - -	170	166	163	158	157	163
Land per acre - - - - -	87	93	91	92	90	102
Improvements per acre - - - - -	34	29	28	25	26	22
Machinery per acre- - - - -	13.46	11.64	11.28	9.27	8.73	8.67
<u>Earnings</u>						
Per farm						
Gross earnings- - - - -	\$ 3 182	\$ 4 588	\$ 6 211	\$ 7 643	\$ 8 785	\$13 649
Gross expenses- - - - -	1 812	2 196	2 903	3 610	4 310	5 938
Net earnings - - - - -	\$ 1 370	\$ 2 392	\$ 3 308	\$ 4 033	\$ 4 475	\$ 7 711
Per acre						
Gross earnings- - - - -	\$ 30.95	\$ 27.63	\$ 25.78	\$ 24.15	\$ 22.31	\$ 23.46
Gross expenses- - - - -	17.63	13.22	12.05	11.41	10.95	10.20
Net earnings - - - - -	\$ 13.32	\$ 14.41	\$ 13.73	\$ 12.74	\$ 11.36	\$ 13.26
Rate earned on investment - - - - -	7.9%	8.7%	8.4%	8.1%	7.2%	8.1%
Labor and management earnings - - - - -	\$ 1 039	\$ 1 584	\$ 1 915	\$ 2 068	\$ 1 896	\$ 3 540
<u>Size and Intensity</u>						
Percent of land area tillable - - - - -	84.4	86.0	83.5	80.5	75.9	86.0
Percent tillable land in grain- - - - -	54.1	57.1	60.2	61.0	56.3	61.3
Percent in hay and pasture- - - - -	42.8	38.5	34.6	34.4	36.5	29.4
Feed fed per acre to prod. l.s. - - - - -	\$ 18.23	\$ 16.05	\$ 14.64	\$ 15.15	\$ 13.95	\$ 13.93
Percent of income from prod. l.s. - - - - -	85.5	84.1	81.0	83.9	84.7	78.3
Percent of income from crops- - - - -	--	2.5	7.3	4.2	2.1	11.8
Months of labor per 100 crop A. - - - - -	22.9	16.9	14.1	12.7	12.6	9.4
Total months of labor - - - - -	15.5	19.0	23.1	26.8	30.2	39.0
Number of work horses - - - - -	2.4	2.8	3.0	3.6	4.0	4.0
<u>Crop Yields per Acre</u>						
Corn, bu. - - - - -	66.3	64.9	64.0	62.8	64.6	63.4
Oats, bu. - - - - -	61.0	61.2	58.9	60.4	59.7	57.9
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 153	\$ 151	\$ 148	\$ 138	\$ 139	\$ 134
Hog returns per litter- - - - -	89	85	87	84	85	89
Dairy returns per cow - - - - -	101	92	98	89	101	95
<u>Expense Factors</u>						
Labor cost per crop acre- - - - -	\$ 11.10	\$ 8.28	\$ 7.02	\$ 6.55	\$ 6.48	\$ 4.94
Horse and machinery cost per crop acre - - - - -	6.74	5.68	5.17	5.32	5.32	4.72
Improvement cost per acre - - - - -	1.69	1.43	1.49	1.34	1.50	1.15
Land tax per acre - - - - -	1.21	1.19	1.14	1.09	1.15	1.15

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses.--Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Therefore, the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 2, 1940

Acres per farm	Feed fed per acre				Feed fed per acre			
	\$2.00 to \$8.99	\$9.00 to \$15.99	\$16.00 to \$22.99	\$23.00 or more	\$2.00 to \$8.99	\$9.00 to \$15.99	\$16.00 to \$22.99	\$23.00 or more
	(labor cost per crop acre)				(horse and machinery cost per crop acre)			
41 to 120	\$10.00	\$10.50	\$10.75	\$11.20	\$5.90	\$6.40	\$6.90	\$7.50
121 to 200	7.00	8.00	8.11	9.10	4.75	5.50	5.90	6.50
201 to 280	6.35	6.90	7.30	7.70	4.40	5.00	5.70	6.30
281 to 360	5.70	6.60	7.25	7.50	4.20	5.00	5.70	6.30
361 to 440	5.40	6.00	7.10	7.20	4.00	5.00	5.70	6.30
441 to more	4.00	5.00	6.00	6.50	4.00	5.20	5.80	6.20

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and source of farm income. (Tables 7 and 8).

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 2, 1940

Item	Your farm	Average of all farms	DeKalb	Stephenson
Number of farms - - - - -	--	456	132	62
<u>Capital Investments</u>				
Land - - - - -	\$ _____	\$19 572	\$25 985	\$11 234
Farm improvements - - - - -	_____	5 829	6 848	5 535
Horses - - - - -	_____	334	349	274
Productive livestock: Cattle - - -	_____	2 847	3 788	2 179
Hogs - - - - -	_____	721	772	600
Sheep - - - - -	_____	150	296	25
Poultry - - - - -	_____	100	103	106
Total productive livestock - - -	()	(3 818)	(4 959)	(2 910)
Feed and grain - - - - -	_____	2 738	3 442	1 719
Machinery and equipment - - - -	_____	2 099	2 411	1 808
Automobile (farm share) - - - -	_____	185	185	171
Total - - - - -	\$ _____	\$34 575	\$44 179	\$23 651
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ _____	\$ --	\$ --	\$ --
Productive livestock: Cattle - - -	_____	1 993	2 762	1 147
Dairy sales - - - - -	_____	822	645	1 296
Hogs - - - - -	_____	1 444	1 500	1 318
Sheep - - - - -	_____	86	117	22
Poultry - - - - -	_____	68	87	30
Egg sales - - - - -	_____	171	165	193
Total productive livestock - - -	()	(4 584)	(5 276)	(4 006)
Farm products used in household -	_____	247	233	246
Feed and grain - - - - -	_____	212	327	--
Labor off farm - - - - -	_____	38	36	11
Miscellaneous - - - - -	_____	9	9	9
AAA payments - - - - -	_____	399	431	253
Total - - - - -	\$ _____	\$ 5 489	\$ 6 312	\$ 4 525
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ _____	\$ 303	\$ 359	\$ 226
Horses - - - - -	_____	27	33	27
Productive livestock - - - - -	_____	--	--	--
Feed and grain - - - - -	_____	--	--	126
Machinery and equipment - - - -	_____	536	653	424
Automobile (farm share) - - - -	_____	103	116	82
Hired labor - - - - -	_____	367	437	235
Miscellaneous - - - - -	_____	35	39	25
Crop expense - - - - -	_____	180	248	132
Livestock expense - - - - -	_____	63	76	61
Taxes - - - - -	_____	277	312	194
Total - - - - -	\$ _____	\$ 1 891	\$ 2 273	\$ 1 532
Receipts less expenses - - - - -	\$ _____	\$ 3 598	\$ 4 039	\$ 2 993
Family labor - - - - -	_____	176	170	155
Returns for labor, capital, mgt. -	\$ _____	\$ 3 422	\$ 3 869	\$ 2 838
Operator's labor - - - - -	_____	560	570	553
Returns for capital and mgt. - -	\$ _____	\$ 2 862	\$ 3 299	\$ 2 285
Rate Earned on Investment - - - -	_____ %	8.3%	7.5%	9.7%
Interest on investment - - - - -	\$ _____	\$ 1 729	\$ 2 209	\$ 1 183
Labor and Management Earnings - -	_____	1 693	1 660	1 655
Nonfarm income - - - - -	\$ _____	\$ 55	\$ 18	\$ 79

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 2, 1940 (Cont'd)

Lee	Ogle	Rock Island	Winnebago	Whiteside	JoDavies	Carroll
55	44	42	32	31	30	28
\$29 546	\$17 725	\$15 515	\$14 025	\$15 265	\$13 105	\$15 235
5 989	5 798	4 240	6 601	5 265	4 387	5 091
283	365	311	429	289	374	379
2 937	2 809	1 727	2 748	2 633	2 219	2 485
763	808	763	703	695	646	603
191	69	62	132	49	53	145
92	83	106	99	106	82	112
(3 983)	(3 769)	(2 658)	(3 682)	(3 483)	(3 000)	(3 345)
3 678	2 639	2 499	2 370	2 606	1 565	2 167
2 456	2 221	1 789	2 091	1 792	1 743	1 569
212	189	179	172	155	197	198
\$46 147	\$32 706	\$27 191	\$29 370	\$28 855	\$24 371	\$27 984
\$ --	\$ --	\$ --	\$ --	\$ --	\$ --	\$ --
2 049	2 093	1 345	1 212	2 308	1 237	2 290
581	654	565	1 601	860	1 053	553
1 426	1 547	1 380	1 346	1 484	1 426	1 519
176	60	56	89	29	65	72
78	73	72	68	61	65	43
169	157	188	159	165	151	198
(4 479)	(4 584)	(3 606)	(4 475)	(4 907)	(3 997)	(4 675)
246	251	286	258	233	272	228
1 079	265	296	60	--	22	--
75	40	60	36	25	45	18
9	15	9	13	5	2	6
564	384	452	346	406	270	382
\$ 6 452	\$ 5 539	\$ 4 709	\$ 5 188	\$ 5 576	\$ 4 608	\$ 5 309
\$ 380	\$ 362	\$ 232	\$ 278	\$ 254	\$ 216	\$ 253
26	23	24	18	30	20	23
--	--	--	--	--	--	--
635	524	430	486	381	421	455
115	98	116	106	529	85	398
471	406	300	334	332	352	251
56	28	37	30	32	31	28
234	135	134	180	135	106	126
54	67	42	68	68	56	57
344	304	293	266	240	214	227
\$ 2 315	\$ 1 947	\$ 1 608	\$ 1 766	\$ 2 090	\$ 1 501	\$ 1 914
\$ 4 137	\$ 3 592	\$ 3 101	\$ 3 422	\$ 3 486	\$ 3 107	\$ 3 395
128	261	173	199	187	164	187
\$ 4 009	\$ 3 331	\$ 2 928	\$ 3 223	\$ 3 299	\$ 2 943	\$ 3 208
561	580	538	588	525	560	528
\$ 3 448	\$ 2 751	\$ 2 390	\$ 2 635	\$ 2 774	\$ 2 383	\$ 2 680
7.5%	8.4%	8.8%	9.0%	9.6%	9.8%	9.6%
\$ 2 307	\$ 1 635	\$ 1 360	\$ 1 468	\$ 1 443	\$ 1 218	\$ 1 399
1 702	1 696	1 568	1 755	1 856	1 725	1 809
\$ 21	36	49	30	\$ 220	87	86

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 2, 1940

Item	Average of all farms	DeKalb	Stevenson	Lee
Rate earned on investment- - - - -	8.3%	7.5%	9.7%	7.5%
Acres in farm- - - - -	212	216	160	261
Acres tillable - - - - -	177	198	135	230
Acres in crops - - - - -	142	169	101	192
Gross earnings per acre- - - - -	\$25.92	\$29.18	\$28.21	\$24.75
Total expenses per acre ^a / - - - - -	12.41	13.93	13.97	11.53
Net earnings per acre- - - - -	\$13.51	\$15.25	\$14.24	\$13.22
<u>Investments</u>				
Value of land per acre - - - - -	\$ 92	\$ 120	\$ 70	\$ 113
Value of improved land per acre- - -	98	122	72	117
Value of improvements per acre - - -	28	32	35	23
Total investment per acre- - - - -	163	204	147	177
<u>Land Use</u>				
Percent of land area tillable- - - -	83.4	91.4	84.0	88.4
Percent of tillable land in:				
Corn - - - - -	31.4	35.0	24.4	33.4
Oats - - - - -	20.0	20.4	19.6	20.7
Wheat- - - - -	1.3	1.4	.4	1.5
Soybeans - - - - -	3.3	4.5	.8	7.0
Other crops- - - - -	7.6	9.7	6.8	9.1
Legume hay and pasture - - - - -	24.1	19.0	30.6	20.3
Nonlegume hay and pasture- - - - -	12.3	10.0	17.4	8.0
<u>Crop Yields</u>				
Corn, bu.- - - - -	64.2	65.1	70.8	58.7
Oats, bu.- - - - -	60.2	70.0	55.5	59.7
Wheat, bu.- - - - -	30.0	31.4	24.0	29.1
Soybeans, bu.- - - - -	20.7	19.6	24.5	21.4
<u>Livestock Factors</u>				
Value of feed fed to productive l.s.	\$3 257	\$4 028	\$2 722	\$3 195
Feed fed per acre to productive l.s.	15.38	18.62	16.97	12.26
Returns per \$100 worth of feed fed	146	135	153	146
Poultry returns per hen- - - - -	2.64	2.85	2.18	2.83
Number of litters farrowed - - - -	17.8	18.4	17.0	16.8
Number of pigs weaned per litter - -	6.2	6.3	6.3	6.3
Returns per litter farrowed- - - -	\$ 86	\$ 87	\$ 83	\$ 89
Average number of cows milked- - -	9.5	7.2	14.4	7.3
Dairy returns per cow milked - - -	\$ 95	\$ 101	\$ 94	\$ 89
<u>Expense Factors</u>				
Machinery cost per crop acre ^b / - - -	\$ 4.48	\$ 4.55	\$ 5.01	\$ 3.90
Horse and machinery cost per crop A.	5.46	5.40	6.33	4.55
Labor cost per crop acre ^a / - - - -	7.47	6.75	9.24	5.83
Total months of labor- - - - -	21.3	22.4	19.2	21.5
Number of work horses- - - - -	3.0	2.9	2.8	2.5
Improvement cost per acre- - - - -	\$ 1.43	\$ 1.66	\$ 1.41	\$ 1.46
Taxes per acre- - - - -	1.31	1.44	1.21	1.32

a/ Includes operator's and family labor.

b/ Includes farm share of automobile.

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 2, 1940 (Cont'd)

Ogle	Rock Island	Winnebago	Whiteside	JoDavies	Carroll
8.4%	8.8%	9.0%	9.6%	9.8%	9.6%
224	201	222	196	233	187
174	154	173	166	146	153
143	118	140	123	106	112
\$24.75	\$23.43	\$23.33	\$28.38	\$19.77	\$28.39
12.46	11.54	11.48	14.26	9.55	14.06
\$12.29	\$11.89	\$11.85	\$14.12	\$10.22	\$14.33
\$ 79	\$ 77	\$ 63	\$ 78	\$ 56	\$ 81
85	85	67	80	64	89
26	21	30	27	19	27
146	135	132	147	105	150
77.7	76.4	77.7	84.5	62.8	81.6
30.7	33.7	29.9	29.9	23.8	27.2
24.5	14.7	18.9	19.3	16.9	22.3
.6	2.4	.6	3.8	.7	.1
2.5	2.3	2.2	1.9	.1	.3
4.8	5.5	7.6	3.9	7.2	5.0
26.6	29.0	28.7	23.3	30.3	29.6
10.3	12.4	12.1	17.9	21.0	15.5
67.6	58.8	65.2	59.8	71.6	70.7
56.6	45.6	52.0	54.3	54.6	55.4
23.0	28.8	26.0	32.8	27.0	25.0
23.0	19.1	22.4	13.7	15.0	22.5
\$3 200	\$2 367	\$3 247	\$3 255	\$2 524	\$3 160
14.30	11.78	14.60	16.56	10.83	16.90
149	161	143	156	165	153
2.83	2.59	2.85	2.41	2.47	2.32
17.0	19.5	16.7	19.0	17.0	20.0
6.5	5.7	5.6	6.1	6.5	5.8
\$ 95	\$ 74	\$ 80	89	\$ 91	\$ 83
8.0	7.6	15.9	9.5	13.0	7.2
\$ 91	\$ 88	\$ 105	\$ 97	\$ 86	\$ 86
\$ 4.34	\$ 4.63	\$ 4.23	\$ 5.04	\$ 4.76	\$ 4.42
5.37	5.75	5.46	6.00	6.05	5.72
8.43	8.23	7.75	8.30	9.72	8.48
23.5	19.0	22.6	20.6	21.8	19.4
3.1	3.1	3.3	2.7	3.2	3.6
\$ 1.62	\$ 1.15	\$ 1.25	\$ 1.29	\$.93	\$ 1.35
1.36	1.46	1.20	1.22	.92	1.21

Influence of Price Changes on Illinois Farm Incomes

Prices of important farm products.--Prices of most livestock and livestock products were higher at the end of 1940 than at the beginning, but prices of all grains except corn were lower.

Although many commodities were lower in price at the end of the year than at the beginning, all the principal Illinois farm products except horses and hogs averaged higher in 1940 than in 1939. The index of all Illinois farm prices averaged 5 percent higher in 1940 than in 1939. The increases for the various groups were as follows: grains, 25 percent; dairy products, 8 percent; fruits, 6 percent; and chickens and eggs, 3 percent. Meat animals decreased 4 percent because of the lower price of hogs.

A great deal of the variation in earnings between the different types of farming in Illinois is due to the constantly shifting ratios between the prices of various livestock products and between those of livestock products and grains. During 1940, the price of beef cattle was materially higher than that of hogs, other livestock, and livestock products. Likewise, the ratio of the price of cattle to the price of corn was much more favorable to the cattle feeder than to the hog feeder. In 1940, 9.2 bushels of corn equaled in value 100 pounds of live hog compared with an average of 15.4 bushels in 1939. During the fall breeding season, the ratio was very unfavorable to the hog producer.

<u>Farm product</u>	<u>December 15 farm prices</u>		<u>Average yearly farm prices</u>	
	<u>1939</u>	<u>1940</u>	<u>1939</u>	<u>1940</u>
Corn, bu.	\$.47	\$.52	\$.43	\$.56
Wheat, bu.	.88	.79	.67	.81
Oats, bu.	.35	.33	.28	.32
Barley, bu.	.44	.49	.41	.46
Soybeans, bu.	.95	.81	.74	.83
Hay, ton	6.50	7.30	6.05	6.68
Horses, head	85.00	74.00	85.00	77.00
Hogs, cwt.	5.10	5.80	6.56	5.54
Beef cattle, cwt.	8.30	9.80	8.18	8.84
Lambs, cwt.	8.20	8.80	8.18	8.52
Milk cows, head	65.00	68.00	63.00	65.00
Milk, cwt.	1.80	2.00	1.59	1.68
Butterfat, lb.	.26	.34	.23	.27
Chickens, lb.	.11	.13	.13	.13
Eggs, doz.	.19	.27	.16	.17

Variations in supplies.--Prices of farm products at inventory time influence farm earnings, because all feed, grain, livestock, and other farm property must be valued at the beginning of the year and at the end. The influence is greatest where large stocks are on hand at inventory time. Abundant feed supplies and increasing inventories have characterized the years since the drouth year of 1936. In 1940, however, the rather spotted crop situation resulted in somewhat low inventories of feed on some farms and large feed supplies on others. For the state as a whole, the corn reserves on January 1, 1941, were the smallest since 1937, reflecting not only the smaller crop but also the smaller amount of sealing that took place under the loan program. Supplies of other feed and grain crops were larger on January 1, 1941, than in 1940. According to the Division of Agricultural Statistics at Springfield, the supplies of the four major grain crops on Illinois farms on January 1, 1940, and 1941, were as follows:

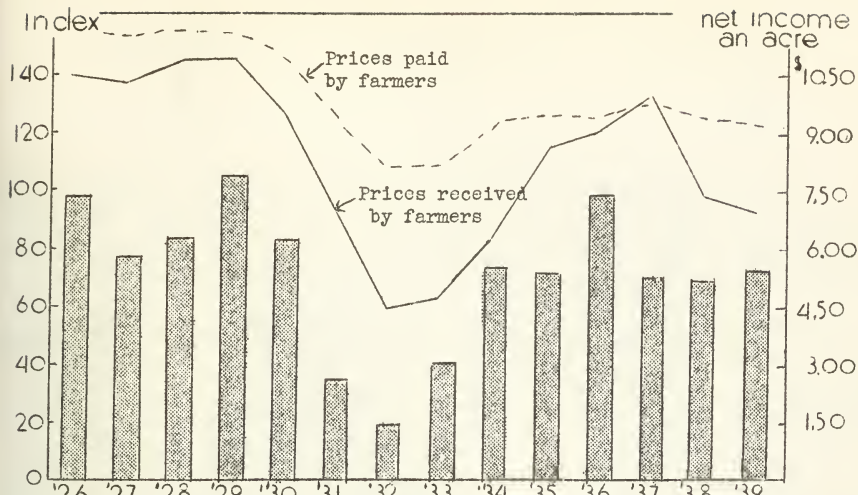


Fig. 2.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1939.

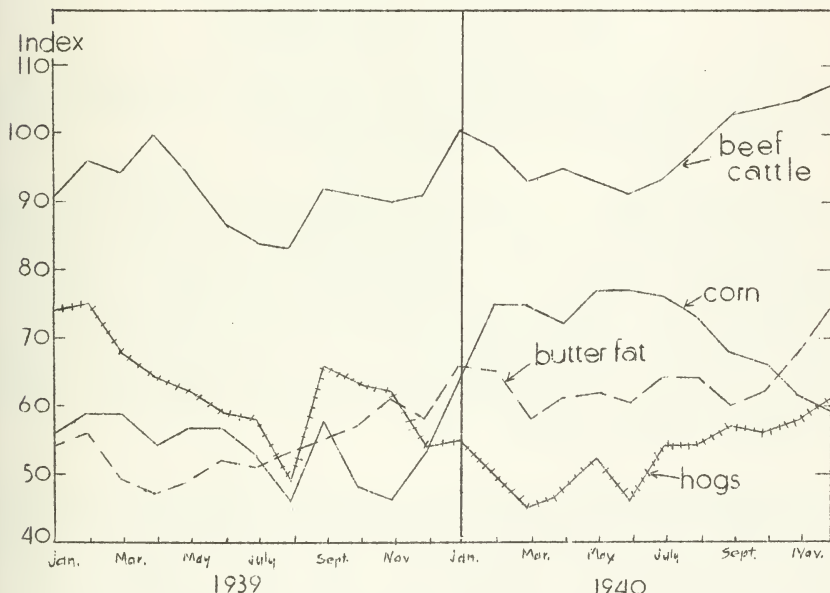


Fig. 3.--Indices of the average monthly farm prices of corn, hogs, butterfat, and beef cattle, 1939 and 1940. (1924-1929 = 100)

<u>Type of grain</u>	<u>1940</u> (million bushels)	<u>1941</u> (million bushels)
Corn	351	280
Oats	57	98
Wheat	5	8
Soybeans	15	17

On accounting farms, all livestock numbers increased in 1939 over 1938. In 1940, however, only the numbers of milk cows, beef cows, feeder cattle, and fall pigs increased; the numbers of feeder lambs, brood sows, spring pigs, and summer pigs decreased. The following data indicate the percentage increase in livestock numbers on 2,847 accounting farms during the calendar year 1940.

<u>Type of livestock</u>	<u>1940</u> (percent of increase)	<u>Type of livestock</u>	<u>1940</u> (percent of increase)
Milk cows	3	Brood sows	-2
Beef cows	10	Spring pigs	-3
Feeder cattle	12	Summer pigs	-2
Feeder lambs	- 2	Fall pigs	+9

The increase in the numbers of milk cows, beef cows, and feeder cattle was general throughout the United States. This upward swing in numbers may be expected to continue for two or three more years. The decrease in the number of brood sows, spring pigs, and summer pigs is much less than that which took place in the corn belt as a whole. Likewise, fall pigs decreased 12 percent in the United States but increased 9 percent on Illinois accounting farms.

Crop Yields in Illinois, 1940

The year 1940 was the fourth consecutive year of high crop yields in Illinois. The weighted average yield of corn, oats, wheat, and soybeans was 128 percent of the 10-year average, 1929-1938, and was within five points of being as high as in 1939, when the average yield was 133 percent.

The 1940 yields of these four crops, as expressed in percentages of the 1929-1938 averages, follow: corn, 126.8; oats, 154.9; wheat, 129.3; and soybeans, 89.2. In 1940 corn yields were higher than the average of the ten years in each of the counties of the state except Clay, Crawford, Franklin, Hardin, Jefferson, Livingston, Marshall, Richland, and Wayne; oat yields were higher in each of the counties except Union; and wheat yields were higher in each of the counties except Calhoun and Cook. Soybean yields, on the other hand, were below the average in all the principal soybean-producing counties. The counties with the highest average yields of the various crops in 1940 compared with those for the base period follow: Randolph county--corn, 170 percent; Grundy county--oats, 199 percent; Alexander county and Whiteside county--wheat, 159 percent; and Macoupin county--soybeans, 126 percent.

The counties with the highest crop yields were located, for the most part, in northern and southwestern Illinois where weather conditions were particularly favorable for the small-grain crops as well as for the corn crop. On the other hand, the counties with the lowest crop yields were located in the south-central and southeastern areas of the state. Another group of counties which extended diagonally southeast from Knox county had spotted and moderately low crop yields in relation to the crop yields for the rest of the state. The variation in crop yields between counties and groups of counties as well as between communities, townships, and even individual farms was greater than usual in 1940 because of differences in rainfall and other climatic conditions.

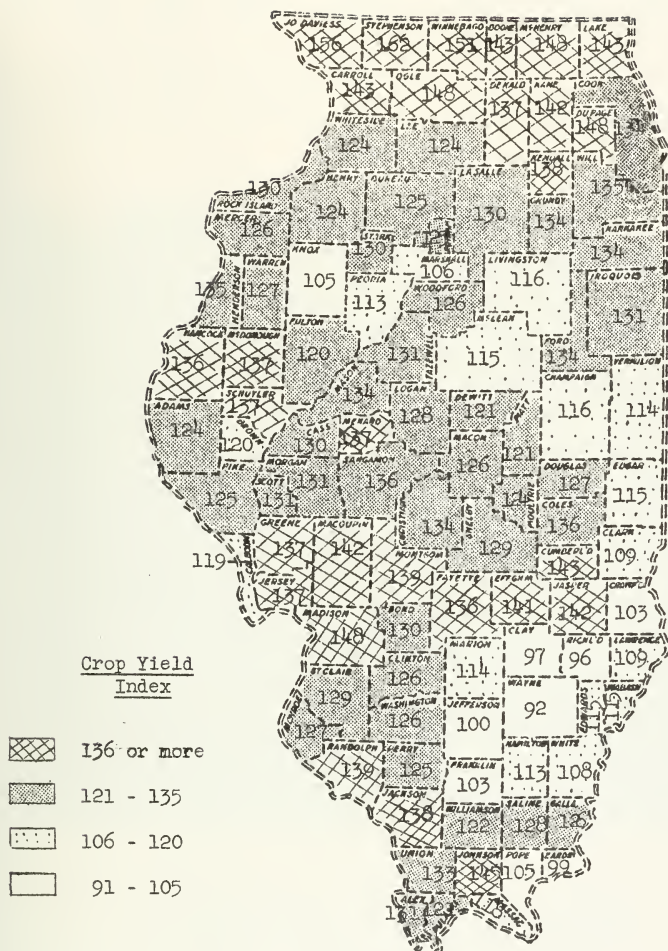


Fig. 4.--Crop yields for 1940 compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1940



FARMING-TYPE AREA THREE Western Livestock and Grain Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON FIVE HUNDRED THIRTY-SIX FARMS IN FARMING-TYPE AREA 3, 1940

By P. E. Johnston, J. B. Cunningham, and K. E. Kinsinger^{1/}

Farm earnings of accounting farms in Farming-Type Area 3 were lower in 1940 than in 1939. The average net earnings per acre were \$11.67 in 1940, \$14.06 in 1939, and \$10.36 in 1938. The items considered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor (Table 1).



/// Farming-Type Area 3
Livestock and Grain

Cash receipts were larger for 1940 than for 1939, but cash expenses were smaller; the lower net farm earnings for 1940 resulted from a smaller average inventory increase. Cash receipts from cattle and grain sales were larger in 1940 than in 1939, but those from hogs and AAA payments were smaller.

The accounting farms in this report were larger than the average of all the farms in the area; the crop yields were above the average; and the farm operators were more skillful than the average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 8 and Figure 1 are particularly well

adapted for such a comparison because they contain measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

^{1/} F. J. Reiss supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

H. K. Danforth, Henry County
R. G. Benbow, McDonough County
A. R. Kemp, Knox County
Paul V. Dean, Bureau County
L. J. Hager, Marshall-Putnam County
I. F. Green, Peoria County

J. E. Watt, Fulton County
L. L. Norton, Hancock County
E. D. Peterson, Mercer County
E. H. Walworth, Warren County
Wayne A. Gilbert, Stark County
A. J. Rehling, Henderson County

TABLE 1.--INVENTORY CHANGES, CASH INCOMES, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 3, 1937-1940

Item	Your farm	Average of all farms in area			
		1940	1939	1938	1937
Number of farms- - - - -	--	536	511	500	342
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$	\$ 88	\$ 187	\$ 127	\$ 92
Livestock- - - - -		596	249	274	153
Feed and grain - - - - -		-82	960	22	520
Machinery and equipment- - - - -		59	122	160	302
Automobile (farm share)- - - - -		-1	22	-2	--
Total - - - - -	\$	\$ 660	\$1 540	\$ 581	\$1 067
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$	\$ 18	\$ 10	\$ 15	\$ 7
Horses - - - - -		36	55	54	70
Productive livestock: Cattle - - - - -		2 643	2 433	1 817	1 366
Dairy sales- - - - -		365	313	342	355
Hogs - - - - -		2 020	2 144	2 561	2 097
Sheep- - - - -		264	257	283	202
Poultry- - - - -		94	84	96	95
Egg sales- - - - -		115	109	116	123
Total productive livestock - - - - -	()	(5 501)	(5 340)	(5 215)	(4 238)
Feed and grain - - - - -		1 600	1 378	1 240	1 403
Machinery and equipment- - - - -		244	253	266	343
Automobile (farm share)- - - - -		51	55	35	--
Labor off farm - - - - -		58	44	58	91
Miscellaneous- - - - -		18	17	10	7
AAA payments - - - - -		546	782	193	172
Total- - - - -	\$	\$8 072	\$7 934	\$7 086	\$6 331
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$	\$ 429	\$ 479	\$ 389	\$ 314
Horses - - - - -		24	36	36	49
Productive livestock: Cattle - - - - -		1 404	1 369	955	600
Hogs - - - - -		138	146	142	119
Sheep- - - - -		172	174	179	133
Poultry- - - - -		23	24	24	20
Total productive livestock - - - - -	()	(1 737)	(1 713)	(1 300)	(872)
Feed and grain - - - - -		986	1 036	755	864
Machinery and equipment- - - - -		956	990	994	1 103
Automobile (farm share)- - - - -		167	179	139	--
Hired labor- - - - -		466	510	474	335
Miscellaneous- - - - -		40	41	40	26
Crop expense - - - - -		174	170	184	304
Livestock expense- - - - -		71	77	77	52
Taxes- - - - -		336	321	298	257
Total- - - - -	\$	\$5 386	\$5 552	\$4 686	\$4 176
<u>Summary</u>					
Cash balance - - - - -	\$	\$2 686	\$2 382	\$2 400	\$2 155
Farm products used in household a/- - - - -		252	260	278	--
Total inventory change - - - - -		660	1 540	581	1 067
Receipts less expenses - - - - -	\$	\$3 598	\$4 182	\$3 259	\$3 222
Total unpaid labor - - - - -		695	681	699	769
Net earnings per farm- - - - -		\$2 903	\$3 501	\$2 560	\$2 453
Net earnings per acre- - - - -	\$	\$11.67	\$14.06	\$10.36	\$10.83

a/ Not included as income for 1937.

Inventory changes.--The year 1940 was the fifth consecutive year of increasing inventories, ranging from an increase of \$1,540 in 1939 to \$581 in 1938 (Table 1). The largest increase in 1940 was from livestock, resulting from the increase in livestock prices and the large supply of livestock on farms in this area. The inventory value of grains declined. The average amounts of grain on hand in Area 3 at the two inventory periods follow:

<u>Crop</u>	<u>Beginning of year (bushels)</u>	<u>End of year (bushels)</u>
Corn	4 980	4 205
Oats	709	911
Wheat	83	116
Soybeans	126	226

Summary of cash receipts and cash expenses.--Cash receipts exceeded cash expenses in 1940 by \$2 686 or by a slightly larger margin than that for any other year during the past four. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The uniformity in valuation of unpaid labor was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$50 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$2,903 in 1940 compared with \$3,501 for 1939. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 3; for example, 128 farms earned less than 5 percent on their investments, with an average rate earned of 3.2 percent, but 17 farms earned 14 percent or more, with an average rate earned of 15.2 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$150 for labor and management earnings contrasted with a gain of \$4,086 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

<u>Rate earned on investment (percent)</u>	<u>Number of farms</u>	<u>Average rate earned (percent)</u>	<u>Acres per farm</u>	<u>Capital invested per farm</u>	<u>Gross earnings per farm</u>	<u>Net earnings per farm</u>	<u>Labor and management earnings</u>
Less than 5.00	128	3.2	236	\$34 556	\$4 581	\$1 098	\$ -150
5.00 to 7.99	185	6.7	242	40 300	6 179	2 684	1 202
8.00 to 10.99	145	9.3	259	39 069	6 818	3 627	2 223
11.00 to 13.99	61	12.2	278	40 894	8 648	4 969	3 479
14.00 or more	17	15.2	218	34 937	8 488	5 308	4 086

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 3, 1940

Item	Your farm	Standards for your farm	Average of all farms
Rate earned on investment- - - - -	_____ %	7.5%	7.5%
Number of farms- - - - -	__	--	536
Acres in farm- - - - -	_____	249	249
Acres tillable - - - - -	_____	199	199
Acres in crops - - - - -	_____	161	161
Gross earnings per acre- - - - -	\$ _____	\$ _____ a/	\$23.33
Total expenses per acre- - - - -	_____	_____	11.66
Net earnings per acre- - - - -	\$ _____	\$ _____	\$11.67
<u>Investments</u>			
Value of land per acre - - - - -	\$ _____	\$ 96	\$ 96
Value of improved land per acre- - - - -	_____	_____	106
Value of improvements per acre - - - - -	_____	20	20
Total investment per acre- - - - -	_____	155	155
<u>Land Use</u>			
Percent of land area tillable- - - - -	_____	_____ a/	80.1
Percent of tillable land in:			
Corn - - - - -	_____	_____	33.1
Oats - - - - -	_____	_____	15.7
Wheat- - - - -	_____	_____	3.8
Soybeans - - - - -	_____	_____	8.0
Other crops- - - - -	_____	_____	6.6
Legume hay and pasture-- - - - -	_____	_____	22.8
Nonlegume hay and pasture- - - - -	_____	_____	10.0
<u>Crop Yields</u>			
Corn, bu.- - - - -	_____	_____ b/	59.8
Oats, bu.- - - - -	_____	_____	51.0
Wheat, bu.- - - - -	_____	_____	27.9
Soybeans, bu.- - - - -	_____	_____	22.3
<u>Livestock Factors</u>			
Value of feed fed to productive l.s. - - - - -	\$ _____	\$ 3 120	\$3 120
Feed fed per acre to productive l.s. - - - - -	_____	_____ c/	12.55
Returns per \$100 worth of feed fed - - - - -	_____	_____	147
Poultry returns per hen- - - - -	_____	2.72	2.72
Number of litters farrowed - - - - -	_____	25	25
Number of pigs weaned per litter - - - - -	_____	6.2	6.2
Returns per litter farrowed- - - - -	_____	\$ 80	\$ 80
Average number of cows milked- - - - -	_____	5.5	5.5
Dairy returns per cow milked - - - - -	\$ _____	\$ _____ c/	\$ 82
<u>Expense Factors</u>			
Machinery cost per crop acre - - - - -	\$ _____	\$ _____ d/	\$ 4.77
Horse and machinery cost per crop acre - - - - -	_____	_____	5.62
Labor cost per crop acre- - - - -	_____	_____	6.98
Total months of labor- - - - -	_____	_____ e/	21.6
Number of work horses- - - - -	_____	_____	3.1
Improvement cost per acre- - - - -	\$ _____	\$ _____	\$ 1.30
Taxes per acre - - - - -	_____	_____ a/	1.17

Source of Standards:

- a/ Table 3, value of land.
b/ Figure 1, value of land.
c/ Table 4, source of income.

- d/ Table 6, size of farm and value of feed fed
e/ Table 5, size of farm.

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

[illegible]

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type area 3, 1940

Item	Value of improved land					
	\$52 or less	\$53 to \$72	\$73 to \$92	\$93 to \$112	\$113 to \$132	\$133 or more
Average value of improved land-	\$ 42	\$ 65	\$ 83	\$ 104	\$ 122	\$ 143
Number of farms - - - - -	38	44	95	135	134	90
Acres per farm- - - - -	214	289	273	230	253	239
Percent of land area tillable -	58.6	66.9	72.0	83.5	87.1	89.6
Percent of tillable land in:						
Corn- - - - -	24.7	31.4	32.3	33.4	34.0	35.3
Oats- - - - -	11.7	12.3	14.2	16.1	17.1	16.9
Wheat - - - - -	5.6	5.2	5.2	3.6	3.3	2.6
Soybeans- - - - -	5.5	6.6	8.2	8.1	8.4	8.3
Other crops - - - - -	4.7	6.1	7.1	6.1	6.4	5.7
Legume hay and pasture- - -	27.6	28.1	22.8	22.0	22.1	22.3
Nonlegume hay and pasture - -	20.2	10.3	10.2	10.7	8.7	8.9
Gross earnings per acre - - -	\$14.21	\$19.88	\$19.06	\$24.14	\$25.64	\$30.21
Total expenses per acre - - -	10.18	10.85	9.67	12.12	12.53	14.07
Net earnings per acre - - - -	\$ 4.03	\$ 9.03	\$ 9.39	\$12.02	\$13.11	\$16.14
Land tax per acre - - - - -	\$.78	\$.91	\$ 1.04	\$ 1.26	\$ 1.28	\$ 1.36

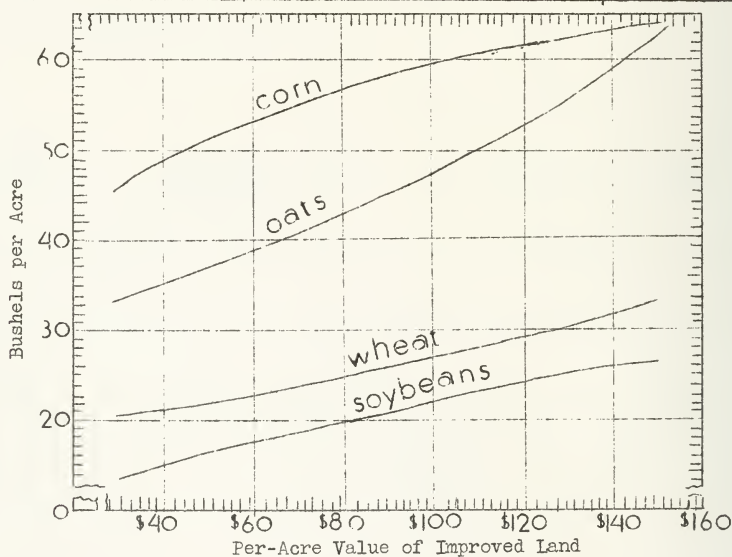


Fig. 1.--Average yields of corn, oats, wheat, and soybeans with varying values of improved land.

Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per \$100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The variable standards for your farms (Table 2) are taken from Tables 3 to 6 and from Figure 1. They are classified as follows:

Table 3 - Value of improved land.

Gross earnings, total expenses, and net earnings per acre.
All items in the land-use section (Table 2).
Land tax per acre.

Figure 1 - Value of improved land.

Yields for corn, oats, wheat, and soybeans.

Table 4 - Source of income,

Feed fed per acre to productive livestock.
Returns per \$100 worth of feed fed.
Dairy returns per cow.

Table 5 - Size of farm.

Total months of labor.
Number of work horses.
Improvements cost per acre.

Table 6 - Size of farm and amount of feed fed per acre.

Horse and machinery cost per crop acre.
Labor cost per crop acre.

The terms used in the tables are the same as those used in the Illinois farm account book. For example, "improved land" is classified on page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on page 18, line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields.--The percent of tillable land in grain crops and "other crops" increased from 52 to 69 as the value per acre for improved land increased from an average of \$42 to \$143 (Table 3). Likewise, the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, wheat, and soybeans increased as the land value increased from \$42 per acre to \$143 per acre (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and net income per acre were high or low for 1940 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 3, 1940

Item	Source of income					
	Grain 40%+	Dairy sales 40%+	Hogs 40%+	Cattle 40%+	General farms	
					L.S. 60%-	L.S. 60%+
Number of farms - - - - -	89	8	166	86	84	103
Percent of income from prod. l.s.	33.4	86.9	85.6	88.9	51.5	75.2
Percent of income from crops - -	52.6	--	--	--	31.2	7.9
<u>Investments</u>						
Total per farm - - - - -	\$40 744	\$25 679	\$32 260	\$55 329	\$36 619	\$35 059
Total per acre - - - - -	155	189	155	165	151	144
Land per acre - - - - -	106	104	95	95	99	85
Improvements per acre - - - - -	17	36	21	22	19	20
Machinery per acre - - - - -	8.61	15.61	10.32	9.59	9.86	9.48
<u>Earnings</u>						
Per farm						
Gross earnings - - - - -	\$6 176	\$4 528	\$5 209	\$10 160	\$5 326	\$5 086
Gross expenses - - - - -	2 786	2 852	2 995	5 400	2 671	2 743
Net earnings - - - - -	\$3 390	\$1 676	\$2 214	\$ 4 760	\$2 655	\$2 343
Per acre						
Gross earnings - - - - -	\$23.55	\$33.28	\$25.06	\$30.28	\$22.01	\$20.82
Gross expenses - - - - -	10.62	20.96	14.41	16.09	11.04	11.23
Net earnings - - - - -	\$12.93	\$12.32	\$10.65	\$14.19	\$10.97	\$ 9.59
Rate earned on investment - - -	8.3%	6.5%	6.9%	8.6%	7.3%	6.7%
Labor and management earnings -	\$1 879	\$ 943	\$1 112	\$2 519	\$1 386	\$1 114
<u>Size and Intensity</u>						
Acres per farm - - - - -	262	136	208	336	242	244
Percent of land area tillable -	87.3	75.7	78.6	75.8	85.0	76.6
Percent tillable land in grain -	67.7	54.8	60.2	58.7	60.6	58.1
Percent in hay and pasture - -	24.0	41.0	34.4	35.6	31.7	37.1
Feed fed per acre to prod. l.s.	5.33	14.53	16.31	18.33	8.17	10.89
Months of labor per 100 crop A.	10.1	27.3	15.4	13.5	12.6	14.3
Total months of labor - - - - -	19.8	22.0	20.1	27.4	20.9	21.0
<u>Crop Yields per Acre</u>						
Corn, bu. - - - - -	61.2	58.5	59.4	63.0	58.7	56.3
Oats, bu. - - - - -	52.7	46.7	50.2	54.6	51.4	46.5
<u>Livestock Returns</u>						
Per \$100 Feed fed - - - - -	\$ 160	\$ 207	\$ 137	\$ 150	\$ 148	\$ 151
Hog returns per litter - - - -	68	62	84	77	74	79
Dairy returns per cow - - - - -	72	137	72	82	80	89
<u>Expense Factors</u>						
Labor cost per crop acre - - -	\$ 5.13	\$14.27	\$ 7.74	\$ 7.28	\$ 6.28	\$ 7.17
Horse and machinery cost per crop acre - - - - -	4.60	10.51	6.00	6.55	4.86	5.65
Improvement cost per acre - -	1.15	1.84	1.36	1.45	1.12	1.31
Land tax per acre - - - - -	1.17	1.54	1.16	1.17	1.22	1.14

Source of income.--The grouping of accounting farms according to source of income for 1940 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that cattle farms showed the largest rate earned on the investment for 1940 and that dairy farms showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1940 was due largely to conditions affecting price and production.

When comparing the returns on the various groups of farms per \$100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per \$100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1935-1937), the necessary returns were: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117.

Furthermore, when comparing crop yields for the various types of farming, one should note the following items which indicate that the grain farms were located on the better land: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; and (4) high yield of corn and oats per acre.

Differences in expenses, on the other hand, are highly significant for the five groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 27 months of labor were used, and lowest on the grain farms, where 10 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from \$5.13 on the grain farms to \$14.27 on the dairy farms; the horse and machinery cost per crop acre was highest on the dairy farms, where it averaged \$10.51 and lowest on the grain farms, where it averaged \$4.60; and the improvement cost per acre averaged \$1.84 on the dairy farms and \$1.15 on the grain farms.

Size of farm.--When the farm records in Farming-Type Area 3 are sorted according to the total acres in the farm, they indicate that the largest farms had a greater total investment in land, improvements, and equipment than did the smallest ones. The operators on the largest farms also took in more money during the year; and, after deductions were made for farm business expenditures and interest on the investment, the 42 largest farms had labor and management earnings which averaged \$2,691 contrasted with \$763 for the 50 smallest farms. The smallest farms had higher investments per acre for improvements, machinery, and total investments, indicating a higher capital input. The rate earned on investment was greater for the large farms than for the smallest ones.

The smallest farms were operated more intensively than were the largest ones. This variation was indicated by the much higher gross earnings per acre and

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 3, 1940

Item	Total acres in farm					
	Less than 121	121 to 200	201 to 280	281 to 360	361 to 440	441 or more
Number of farms - - - - -	50	188	128	83	37	42
Acres per farm - - - - -	98	164	244	326	401	565
<u>Investments</u>						
Total per farm - - - - -	\$16 227	\$26 756	\$38 363	\$52 863	\$62 623	\$72 513
Total per acre - - - - -	165	164	157	162	156	128
Land per acre - - - - -	98	99	100	101	96	78
Improvements per acre - - - -	26	22	20	21	20	16
Machinery per acre - - - - -	11.59	11.56	9.76	9.12	9.23	7.57
<u>Earnings</u>						
Per farm						
Gross earnings - - - - -	\$2 567	\$4 113	\$5 745	\$7 856	\$9 044	\$11 103
Gross expenses - - - - -	1 498	2 173	2 838	3 751	4 387	5 280
Net earnings - - - - -	\$1 069	\$1 940	\$2 907	\$4 105	\$4 657	\$5 823
Per acre						
Gross earnings - - - - -	\$26.09	\$25.14	\$23.54	\$24.11	\$22.58	\$19.66
Gross expenses - - - - -	15.23	13.28	11.63	11.51	10.95	9.35
Net earnings - - - - -	\$10.86	\$11.86	\$11.91	\$12.60	\$11.63	\$10.31
Rate earned on investment - - -	6.6%	7.3%	7.6%	7.8%	7.4%	8.0%
Labor and management earnings -	\$ 763	\$1 135	\$1 511	\$2 003	\$2 075	\$2 691
<u>Size and Intensity</u>						
Percent of land area tillable -	85.9	83.5	82.4	83.2	78.3	68.7
Percent tillable land in grain -	60.0	60.0	62.5	59.9	61.2	61.7
Percent in hay and pasture - -	37.8	34.9	31.1	34.9	32.0	28.0
Feed fed per acre to prod. l.s. -	\$14.60	\$13.96	\$11.98	\$12.95	\$12.99	\$10.23
Percent of income from prod.l.s. -	80.0	77.7	70.1	76.9	79.9	75.5
Percent of income from crops - -	1.6	6.6	14.3	8.8	5.8	10.7
Months of labor per 100 crop A. -	20.9	16.1	13.1	12.3	11.4	10.3
Total months of labor - - - -	13.7	17.7	21.7	25.9	29.2	34.0
Number of work horses - - - - -	2.3	2.7	3.0	3.5	3.9	4.2
<u>Crop Yields per Acre</u>						
Corn, bu. - - - - -	59.6	61.5	59.1	59.6	58.4	59.7
Oats, bu. - - - - -	50.6	51.0	50.0	51.6	53.3	50.9
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 153	\$ 147	\$ 144	\$ 148	\$ 143	\$ 149
Hog returns per litter - - - -	78	81	80	77	78	78
Dairy returns per cow - - - -	75	82	76	94	82	89
<u>Expense Factors</u>						
Labor cost per crop acre - - -	\$10.32	\$ 8.02	\$ 6.63	\$ 6.48	\$ 6.08	\$ 5.39
Horse and machinery cost per -						
crop acre - - - - -	6.15	6.16	5.27	5.43	5.42	5.58
Improvement cost per acre - - -	1.52	1.39	1.27	1.36	1.44	1.02
Land tax per acre - - - - -	1.30	1.24	1.15	1.23	1.15	1.02

by the larger labor and capital input per acre. The 42 largest farms, however, had the smallest percent of land area tillable, the lowest value of land per acre, the lowest land tax per acre, but the highest rate earned on investment.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses.--Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Therefore, the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 3, 1940

Acres per farm	Feed fed per acre				Feed fed per acre			
	Less than \$8.00	\$8.00 to \$15.99	\$16.00 to \$23.99	\$24.00 or more	Less than \$8.00	\$8.00 to \$15.99	\$16.00 to \$23.99	\$24.00 or more
	(labor cost per crop acre)				(horse and machinery cost per crop acre)			
41 to 120	\$8.50	\$9.23	\$10.98	\$12.75	\$6.40	\$6.50	\$6.90	\$9.10
121 to 200	7.32	7.64	8.50	11.52	5.40	5.85	6.40	8.80
201 to 280	5.70	6.47	7.60	9.04	4.80	5.60	6.00	7.40
281 to 360	4.90	6.40	7.24	8.07	4.40	5.50	5.90	6.60
361 to 440	5.00	6.32	6.70	7.39	4.40	5.40	5.80	6.40
441 or more	5.00	5.50	6.50	6.71	5.00	5.50	6.30	7.50

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and source of farm income. (Tables 7 and 8).

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 3, 1940

Item	Your farm	Average of all farms	Henry	McDonough
Number of farms - - - - -	--	536	78	70
<u>Capital Investments</u>				
Land - - - - -	\$	\$23 757	\$23 435	\$23 955
Farm improvements - - - - -		5 023	5 506	4 265
Horses - - - - -		312	306	304
Productive livestock: Cattle - - - - -		2 244	2 884	1 857
Hogs - - - - -		969	1 048	1 133
Sheep - - - - -		144	112	65
Poultry - - - - -		83	85	75
<u>Total productive livestock - - - - -</u>	()	(3 440)	(4 129)	(3 130)
Feed and grain - - - - -		3 555	3 434	3 225
Machinery and equipment - - - - -		2 198	2 438	2 126
Automobile (farm share) - - - - -		208	222	158
<u>Total - - - - -</u>	\$	\$38 493	\$39 470	\$37 163
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$	\$ --	\$ --	\$ --
Productive livestock: Cattle - - - - -		1 728	2 461	1 596
Dairy sales - - - - -		365	371	206
Hogs - - - - -		1 986	2 118	2 324
Sheep - - - - -		127	120	52
Poultry - - - - -		75	80	79
Egg sales - - - - -		115	137	109
<u>Total productive livestock - - - - -</u>	()	(4 396)	(5 287)	(4 366)
Farm products used in household - - - - -		252	263	254
Feed and grain - - - - -		532	--	741
Labor off farm - - - - -		58	45	50
Miscellaneous - - - - -		18	19	20
AAA payments - - - - -		546	574	494
<u>Total - - - - -</u>	\$	\$ 5 802	\$ 6 188	\$ 5 925
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$	\$ 323	\$ 330	\$ 245
Horses - - - - -		24	27	15
Productive livestock - - - - -		--	--	--
Feed and grain - - - - -		--	58	--
Machinery and equipment - - - - -		653	733	644
Automobile (farm share) - - - - -		117	114	98
Hired labor - - - - -		466	540	414
Miscellaneous - - - - -		40	36	35
Crop expense - - - - -		174	180	150
Livestock expense - - - - -		71	69	80
Taxes - - - - -		336	368	298
<u>Total - - - - -</u>	\$	\$ 2 204	\$ 2 455	\$ 1 979
Receipts less expenses - - - - -	\$	\$ 3 598	3 733	3 946
Family labor - - - - -		168	224	174
Returns for labor, capital, mgt. - - - - -	\$	\$ 3 430	\$ 3 509	\$ 3 772
Operator's labor - - - - -		527	533	528
Returns for capital and mgt. - - - - -	\$	\$ 2 903	\$ 2 976	\$ 3 244
<u>Rate Earned on Investment - - - - -</u>		7.5%	7.5%	8.7%
Interest on investment - - - - -	\$	\$ 1 924	\$ 1 973	\$ 1 858
<u>Labor and Management Earnings - - - - -</u>		1 506	1 536	1 914
<u>Nonfarm income - - - - -</u>	\$	\$ 30	\$ 37	\$ 30

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 3, 1940 (Cont'd)

Knox	Bureau	Marshall- Putnam	Peoria	Fulton	Hancock
55	53	48	46	43	32
\$23 989	\$25 694	\$33 705	\$21 680	\$17 802	\$18 276
5 255	5 812	6 451	4 571	4 542	3 831
269	291	298	323	250	323
1 961	2 288	2 888	1 374	1 807	1 926
879	1 015	965	726	885	775
99	153	246	74	215	65
73	115	86	107	66	58
(3 012)	(3 571)	(4 185)	(2 281)	(2 973)	(2 824)
3 917	3 391	5 209	3 030	2 580	2 222
2 279	2 498	2 309	2 024	1 808	1 661
203	200	238	199	159	146
<u>\$38 924</u>	<u>\$41 457</u>	<u>\$52 395</u>	<u>\$34 108</u>	<u>\$30 114</u>	<u>\$29 283</u>
\$ --	\$ --	\$ --	\$ --	\$ --	\$ --
1 209	1 641	2 603	890	1 091	1 355
512	465	413	393	351	328
1 780	1 919	2 209	1 471	1 761	1 613
102	120	212	77	149	70
36	161	84	71	59	46
93	152	97	180	91	58
(3 732)	(4 458)	(5 618)	(3 082)	(3 502)	(3 470)
268	276	258	222	243	230
983	513	228	900	352	680
76	49	60	115	44	23
14	22	41	27	13	7
547	551	663	517	474	476
<u>\$ 5 620</u>	<u>\$ 5 869</u>	<u>\$ 6 868</u>	<u>\$ 4 863</u>	<u>\$ 4 628</u>	<u>\$ 4 886</u>
\$ 336	\$ 366	\$ 421	\$ 279	\$ 324	\$ 243
25	37	38	24	28	20
--	--	--	--	--	--
--	--	--	--	--	--
644	650	793	554	537	496
110	119	146	101	98	91
443	429	653	416	308	417
43	40	55	45	30	26
207	182	236	136	145	111
71	80	79	55	56	48
350	266	437	311	338	273
<u>\$ 2 229</u>	<u>\$ 2 169</u>	<u>\$ 2 858</u>	<u>\$ 1 921</u>	<u>\$ 1 864</u>	<u>\$ 1 725</u>
\$ 3 391	\$ 3 700	\$ 4 010	\$ 2 942	\$ 2 764	\$ 3 161
164	212	127	150	159	133
\$ 3 227	\$ 3 488	\$ 3 883	\$ 2 792	\$ 2 605	\$ 3 028
553	528	509	468	534	495
\$ 2 674	\$ 2 960	\$ 3 374	\$ 2 324	\$ 2 071	\$ 2 533
6.9%	7.1%	6.4%	6.8%	6.9%	8.7%
\$ 1 946	\$ 2 073	\$ 2 620	\$ 1 705	\$ 1 505	\$ 1 464
1 281	1 415	1 263	1 087	1 100	1 564
\$ 51	\$ 6	\$ 38	\$ 33	\$ 29	\$ 32

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 3, 1940 (Cont'd)

Item	Mercer	Warren	Stark	Henderson
Number of farms - - - - -	31	28	28	24
<u>Capital Investments</u>				
Land- - - - -	\$22 237	\$26 025	\$25 233	\$19 072
Farm improvements - - - - -	4 559	5 878	4 533	4 022
Horses- - - - -	399	442	230	433
Productive livestock: Cattle- - -	2 895	2 539	1 587	3 018
Hogs- - - - -	930	1 157	966	1 052
Sheep - - - - -	74	148	473	166
Poultry - - - - -	82	79	77	70
<u>Total productive livestock- - -</u>	<u>(3 981)</u>	<u>(3 923)</u>	<u>(3 103)</u>	<u>(4 306)</u>
Feed and grain- - - - -	4 598	4 261	3 503	3 563
Machinery and equipment - - - -	1 903	2 359	2 378	2 289
Automobile (farm share) - - - -	295	256	261	235
<u>Total - - - - -</u>	<u>\$37 972</u>	<u>\$43 144</u>	<u>\$39 241</u>	<u>\$33 920</u>
<u>Receipts and Net Increases</u>				
Horses- - - - -	\$ --	\$ --	\$ --	\$ --
Productive livestock: Cattle- - -	2 323	2 100	851	2 420
Dairy sales - - - - -	405	302	380	172
Hogs- - - - -	1 984	2 348	1 873	2 336
Sheep - - - - -	97	138	332	189
Poultry - - - - -	54	77	71	46
Egg sales - - - - -	127	92	108	89
<u>Total productive livestock- - -</u>	<u>(4 990)</u>	<u>(5 057)</u>	<u>(3 615)</u>	<u>(5 252)</u>
Farm products used in household -	254	243	249	236
Feed and grain - - - - -	627	448	1 371	--
Labor off farm - - - - -	53	49	81	47
Miscellaneous - - - - -	7	10	16	11
AAA payments- - - - -	623	580	485	575
<u>Total - - - - -</u>	<u>\$ 6 554</u>	<u>\$ 6 387</u>	<u>\$ 5 817</u>	<u>\$ 6 121</u>
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ 342	\$ 407	\$ 317	\$ 296
Horses - - - - -	23	12	13	12
Productive livestock- - - - -	--	--	--	--
Feed and grain- - - - -	--	--	--	131
Machinery and equipment - - - -	629	786	562	757
Automobile (farm share) - - - -	160	134	147	120
Hired labor - - - - -	577	507	386	477
Miscellaneous - - - - -	39	49	40	47
Crop expense- - - - -	186	207	152	185
Livestock expense - - - - -	84	85	58	95
Taxes - - - - -	392	321	343	332
<u>Total - - - - -</u>	<u>\$ 2 432</u>	<u>\$ 2 508</u>	<u>\$ 2 018</u>	<u>\$ 2 452</u>
Receipts less expenses- - - - -	\$ 4 122	\$ 3 879	\$ 3 799	\$ 3 669
Family labor- - - - -	159	144	126	142
Returns for labor, capital, mgt.-	\$ 3 963	\$ 3 735	\$ 3 673	\$ 3 527
Operator's labor- - - - -	526	525	587	552
Returns for capital and mgt.- - -	\$ 3 437	\$ 3 210	\$ 3 086	\$ 2 975
<u>Rate Earned on Investment - - -</u>	<u>9.1%</u>	<u>7.4%</u>	<u>7.9%</u>	<u>8.8%</u>
Interest on investment- - - - -	\$ 1 898	\$ 2 157	\$ 1 962	\$ 1 696
<u>Labor and Management Earnings - -</u>	<u>2 065</u>	<u>1 578</u>	<u>1 711</u>	<u>1 831</u>
Nonfarm income- - - - -	\$ 16	\$ 7	\$ 30	\$ 35

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 3, 1940

Item	Average of all farms	Henry	McDonough
Rate earned on investment- - - - -	7.5%	7.5%	8.7%
Acres in farm- - - - -	249	238	241
Acres tillable - - - - -	199	196	199
Acres in crops - - - - -	161	151	168
Gross earnings per acre- - - - -	\$23.33	\$25.98	\$24.62
Total expenses per acre ^{a/} - - - - -	11.66	13.49	11.14
Net earnings per acre- - - - -	\$11.67	\$12.49	\$13.48
<u>Investments</u>			
Value of land per acre - - - - -	\$ 96	\$ 98	\$ 100
Value of improved land per acre- - -	106	105	109
Value of improvements per acre - - -	20	23	18
Total investment per acre- - - - -	155	166	154
<u>Land Use</u>			
Percent of land area tillable- - -	80.1	82.3	82.6
Percent of tillable land in:			
Corn - - - - -	33.1	33.6	32.4
Oats - - - - -	15.7	18.2	13.1
Wheat- - - - -	3.8	1.8	7.5
Soybeans - - - - -	8.0	4.7	12.9
Other crops- - - - -	6.6	4.7	5.5
Legume hay and pasture - - - - -	22.8	25.5	21.0
Nonlegume hay and pasture- - - - -	10.0	11.5	7.6
<u>Crop Yields</u>			
Corn, bu.- - - - -	59.8	62.5	65.6
Oats, bu.- - - - -	51.0	49.7	51.7
Wheat, bu. - - - - -	27.9	30.3	28.5
Soybeans, bu.- - - - -	22.3	21.5	24.5
<u>Livestock Factors</u>			
Value of feed fed to productive l.s.	\$3 120	\$3 678	\$3 228
Feed fed per acre to productive l.s.	12.55	15.44	13.41
Returns per \$100 worth of feed fed -	147	149	141
Poultry returns per hen- - - - -	2.72	2.60	3.01
Number of litters farrowed - - - - -	25	25	29
Number of pigs weaned per litter - -	6.2	6.1	6.5
Returns per litter farrowed- - - - -	\$ 80	\$ 84	\$ 80
Average number of cows milked- - -	5.5	5.4	4.1
Dairy returns per cow milked - - - -	\$ 82	\$ 85	\$ 71
<u>Expense Factors</u>			
Machinery cost per crop acre ^{b/} - - -	\$ 4.77	\$ 5.59	\$ 4.43
Horse and machinery cost per crop A.	5.62	6.47	5.14
Labor cost per crop acre ^{a/} - - - - -	6.98	8.27	6.36
Total months of labor- - - - -	21.6	23.6	21.2
Number of work horses- - - - -	3.1	2.9	3.0
Improvement cost per acre- - - - -	\$ 1.30	\$ 1.39	\$ 1.02
Taxes per acre - - - - -	1.35	1.54	1.24

^{a/} Includes operator's and family labor.

^{b/} Includes farm share of automobile.

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 3, 1940 (Cont'd)

Knox	Bureau	Marshall- Putnam	Peoria	Fulton	Hancock
6.9%	7.1%	6.4%	6.8%	6.9%	8.7%
251	225	304	218	256	248
202	195	242	179	183	185
167	157	204	149	146	138
\$22.35	\$26.08	\$22.59	\$22.31	\$18.11	\$19.68
11.71	12.92	11.49	11.65	10.01	9.48
\$10.64	\$13.16	\$11.10	\$10.66	\$ 8.10	\$10.20
\$ 95	\$ 114	\$ 111	\$ 99	\$ 70	\$ 74
106	120	126	109	84	85
21	26	21	21	18	15
155	184	172	156	118	118
80.3	86.6	79.6	82.2	71.5	74.4
33.6	35.7	34.3	31.6	38.9	23.1
14.4	20.8	17.8	16.5	12.6	10.3
1.8	.9	4.0	2.4	9.5	9.4
10.7	3.8	7.4	8.7	9.1	11.5
7.4	5.9	8.9	9.4	3.9	6.7
20.3	22.3	20.7	21.9	23.1	25.9
11.8	10.6	6.9	9.5	12.9	13.1
55.8	62.0	50.8	52.0	54.6	64.9
42.0	58.9	56.3	51.1	51.3	51.5
28.9	27.6	26.2	27.0	29.1	26.3
23.5	20.1	19.4	21.4	18.6	24.3
\$2 538	\$3 281	\$3 937	\$2 134	\$2 658	\$2 275
10.10	14.58	12.95	9.79	10.40	9.16
155	142	148	152	139	160
2.38	3.39	2.62	2.91	2.74	2.04
22.0	23.3	31.0	21.4	27.0	18.0
6.0	6.4	6.2	5.9	5.9	6.2
\$ 81	\$ 84	\$ 80	\$ 75	\$ 66	\$ 75
6.9	6.5	5.8	5.3	5.4	6.5
\$ 88	\$ 85	\$ 86	\$ 86	\$ 81	\$ 63
\$ 4.52	\$ 4.89	\$ 4.60	\$ 4.39	\$ 4.35	\$ 4.25
5.31	5.77	5.37	5.38	5.29	5.22
6.66	7.12	6.19	6.46	6.56	7.41
21.2	21.4	23.7	18.6	20.0	21.3
3.0	3.0	2.9	3.0	2.8	3.4
\$ 1.34	\$ 1.63	\$ 1.38	\$ 1.28	\$ 1.27	\$.98
1.39	1.18	1.44	1.43	1.32	1.10

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 3, 1940 (Cont'd)

Item	Mercer	Warren	Stark	Henderson
Rate earned on investment- - - - -	9.1%	7.4%	7.9%	8.8%
Acres in farm- - - - -	276	254	232	266
Acres tillable- - - - -	194	213	206	196
Acres in crops- - - - -	154	172	162	163
Gross earnings per acre- - - - -	\$23.79	\$25.15	\$25.05	\$22.98
Total expenses per acre ^a / - - - - -	11.31	12.51	11.76	11.81
Net earnings per acre- - - - -	\$12.48	\$12.64	\$13.29	\$11.17
<u>Investments</u>				
Value of land per acre- - - - -	\$ 81	\$ 102	\$ 109	\$ 72
Value of improved land per acre- - -	91	108	111	84
Value of improvements per acre- - -	17	23	20	15
Total investment per acre- - - - -	138	170	169	127
<u>Land Use</u>				
Percent of land area tillable- - -	70.5	83.7	88.8	73.6
Percent of tillable land in:				
Corn- - - - -	35.9	37.1	37.3	33.1
Oats- - - - -	12.5	16.3	17.5	14.0
Wheat- - - - -	.9	2.3	.9	5.6
Soybeans- - - - -	4.5	6.7	7.5	7.8
Other crops- - - - -	9.0	6.4	4.8	8.7
Legume hay and pasture- - - - -	26.5	22.7	22.3	23.4
Nonlegume hay and pasture- - - - -	10.7	8.5	9.7	7.4
<u>Crop Yields</u>				
Corn, bu.- - - - -	64.0	61.7	61.9	66.8
Oats, bu.- - - - -	43.1	49.0	49.6	48.3
Wheat, bu.- - - - -	18.3	36.5	16.7	23.7
Soybeans, bu.- - - - -	22.8	20.3	22.9	22.5
<u>Livestock Factors</u>				
Value of feed fed to productive l.s.	\$3 227	\$3 797	\$2 620	\$3 840
Feed fed per acre to productive l.s.	11.71	14.95	11.28	14.42
Returns per \$100 worth of feed fed -	161	138	145	141
Poultry returns per hen- - - - -	2.60	2.66	2.90	2.50
Number of litters farrowed- - - - -	25.5	29.0	23.6	27.0
Number of pigs weaned per litter- -	6.3	5.9	6.3	6.0
Returns per litter farrowed- - - -	\$ 77	\$ 64	\$ 83	\$ 86
Average number of cows milked- - -	5.4	4.9	5.6	3.6
Dairy returns per cow milked- - - -	\$ 91	\$ 79	\$ 81	\$ 72
<u>Expense Factors</u>				
Machinery cost per crop acre ^b / - - -	\$ 5.13	\$ 5.34	\$ 4.37	\$ 5.37
Horse and machinery cost per crop A.	6.03	6.25	4.93	6.30
Labor cost per crop acre ^a / - - - -	7.91	6.54	6.44	6.88
Total months of labor- - - - -	22.9	21.6	20.1	21.5
Number of work horses- - - - -	3.6	3.6	2.4	3.4
Improvement cost per acre- - - - -	\$ 1.24	\$ 1.60	\$ 1.37	\$ 1.11
Taxes per acre- - - - -	1.42	1.26	1.48	1.25

^a/ Includes operator's and family labor.

^b/ Includes farm share of automobile.

Influence of Price Changes on Illinois Farm Incomes

Prices of important farm products.--Prices of most livestock and live-stock products were higher at the end of 1940 than at the beginning, but prices of all grains except corn were lower.

Although many commodities were lower in price at the end of the year than at the beginning, all the principal Illinois farm products except horses and hogs averaged higher in 1940 than in 1939. The index of all Illinois farm prices averaged 5 percent higher in 1940 than in 1939. The increases for the various groups were as follows: grains, 25 percent; dairy products, 8 percent; fruits, 6 percent; and chickens and eggs, 3 percent. Meat animals decreased 4 percent because of the lower price of hogs.

A great deal of the variation in earnings between the different types of farming in Illinois is due to the constantly shifting ratios between the prices of various livestock products and between those of livestock products and grains. During 1940, the price of beef cattle was materially higher than that of hogs, other livestock, and livestock products. Likewise, the ratio of the price of cattle to the price of corn was much more favorable to the cattle feeder than to the hog feeder. In 1940, 9.2 bushels of corn equaled in value 100 pounds of live hog compared with an average of 15.4 bushels in 1939. During the fall breeding season, the ratio was very unfavorable to the hog producer.

<u>Farm product</u>	<u>December 15 farm prices</u>		<u>Average yearly farm prices</u>	
	<u>1939</u>	<u>1940</u>	<u>1939</u>	<u>1940</u>
Corn, bu.	\$.47	\$.52	\$.43	\$.56
Wheat, bu.	.88	.79	.67	.81
Oats, bu.	.35	.33	.28	.32
Barley, bu.	.44	.49	.41	.46
Soybeans, bu.	.95	.81	.74	.83
Hay, ton	6.50	7.30	6.05	6.68
Horses, head	85.00	74.00	85.00	77.00
Hogs, cwt.	5.10	5.80	6.56	5.54
Beef cattle, cwt.	8.30	9.80	8.18	8.84
Lambs, cwt.	8.20	8.80	8.18	8.52
Milk cows, head	65.00	68.00	63.00	65.00
Milk, cwt.	1.80	2.00	1.59	1.68
Butterfat, lb.	.26	.34	.23	.27
Chickens, lb.	.11	.13	.13	.13
Eggs, doz.	.19	.27	.16	.17

Variations in supplies.--Prices of farm products at inventory time influence farm earnings, because all feed, grain, livestock, and other farm property must be valued at the beginning of the year and at the end. The influence is greatest where large stocks are on hand at inventory time. Abundant feed supplies and increasing inventories have characterized the years since the drouth year of 1936. In 1940, however, the rather spotted crop situation resulted in somewhat low inventories of feed on some farms and large feed supplies on others. For the state as a whole, the corn reserves on January 1, 1941, were the smallest since 1937, reflecting not only the smaller crop but also the smaller amount of sealing that took place under the loan program. Supplies of other feed and grain crops were larger on January 1, 1941, than in 1940. According to the Division of Agricultural Statistics at Springfield, the supplies of the four major grain crops on Illinois farms on January 1, 1940, and 1941, were as follows:

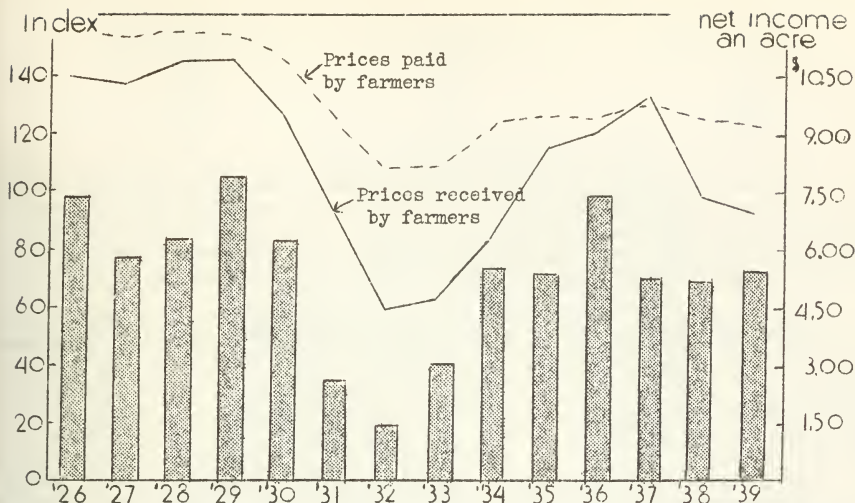


Fig. 2.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1939.

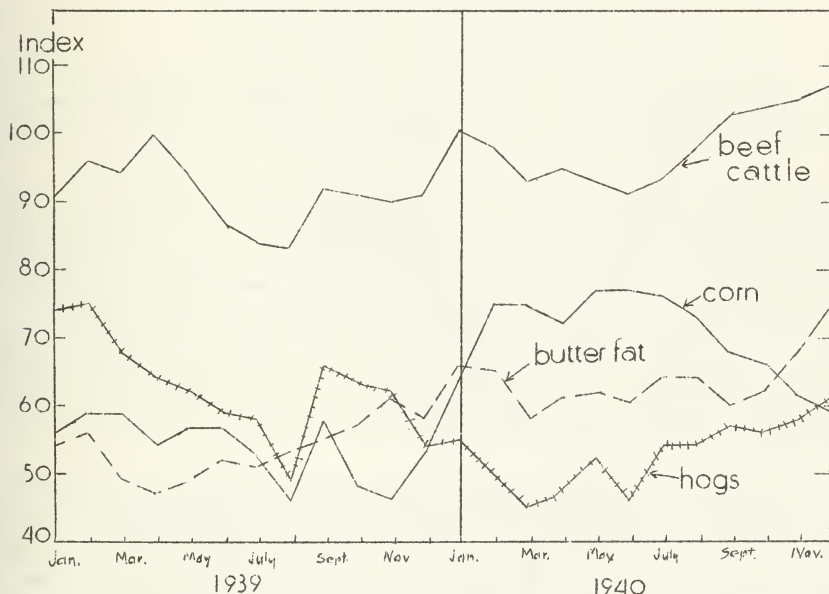


Fig. 3.--Indices of the average monthly farm prices of corn, hogs, butterfat, and beef cattle, 1939 and 1940.
(1924-1929 = 100)

<u>Type of grain</u>	<u>1940</u> (million bushels)	<u>1941</u> (million bushels)
Corn	351	280
Oats	57	98
Wheat	5	8
Soybeans	15	17

On accounting farms, all livestock numbers increased in 1939 over 1938. In 1940, however, only the numbers of milk cows, beef cows, feeder cattle, and fall pigs increased; the numbers of feeder lambs, brood sows, spring pigs, and summer pigs decreased. The following data indicate the percentage increase in livestock numbers on 2,847 accounting farms during the calendar year 1940.

<u>Type of livestock</u>	<u>1940</u> (percent of increase)	<u>Type of livestock</u>	<u>1940</u> (percent of increase)
Milk cows	3	Brood sows	-2
Beef cows	10	Spring pigs	-3
Feeder cattle	12	Summer pigs	-2
Feeder lambs	- 2	Fall pigs	+9

The increase in the numbers of milk cows, beef cows, and feeder cattle was general throughout the United States. This upward swing in numbers may be expected to continue for two or three more years. The decrease in the number of brood sows, spring pigs, and summer pigs is much less than that which took place in the corn belt as a whole. Likewise, fall pigs decreased 12 percent in the United States but increased 9 percent on Illinois accounting farms.

Crop Yields in Illinois, 1940

The year 1940 was the fourth consecutive year of high crop yields in Illinois. The weighted average yield of corn, oats, wheat, and soybeans was 128 percent of the 10-year average, 1929-1938, and was within five points of being as high as in 1939, when the average yield was 133 percent.

The 1940 yields of these four crops, as expressed in percentages of the 1929-1938 averages, follow: corn, 126.8; oats, 154.9; wheat, 129.3; and soybeans, 89.2. In 1940 corn yields were higher than the average of the ten years in each of the counties of the state except Clay, Crawford, Franklin, Hardin, Jefferson, Livingston, Marshall, Richland, and Wayne; oat yields were higher in each of the counties except Union; and wheat yields were higher in each of the counties except Calhoun and Cook. Soybean yields, on the other hand, were below the average in all the principal soybean-producing counties. The counties with the highest average yields of the various crops in 1940 compared with those for the base period follow: Randolph county--corn, 170 percent; Grundy county--Oats, 199 percent; Alexander county and Whiteside county--wheat, 159 percent; and Macoupin county--soybeans, 126 percent.

The counties with the highest crop yields were located, for the most part, in northern and southwestern Illinois where weather conditions were particularly favorable for the small-grain crops as well as for the corn crop. On the other hand, the counties with the lowest crop yields were located in the south-central and southeastern areas of the state. Another group of counties which extended diagonally southeast from Knox county had spotted and moderately low crop yields in relation to the crop yields for the rest of the state. The variation in crop yields between counties and groups of counties as well as between communities, townships, and even individual farms was greater than usual in 1940 because of differences in rainfall and other climatic conditions.

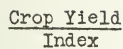


Fig. 4.--Crop yields for 1940 compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1940



FARMING-TYPE AREA FOUR East Central Cash Grain Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON FIVE HUNDRED EIGHTY-TWO FARMS IN FARMING-TYPE AREA 4, 1940

By P. E. Johnston, J. B. Cunningham, and L. W. Schruben^{1/}

Farm earnings of accounting farms in Farming-Type Area 4 were lower in 1940 than in 1939. The average net earnings per acre were \$10.19 in 1940, \$12.60 in 1939, and \$9.67 in 1938. The items considered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor (Table 1).



▨ Farming-Type Area 4
Cash grain

Both cash receipts and cash expenses were larger in 1940 than in 1939, and the resulting cash balance was \$450 larger per farm. The lower net farm earnings for 1940 resulted from the smaller average inventory increases. Cash receipts from cattle, dairy sales, hogs, and grains were larger in 1940 than in 1939.

The accounting farms in this report were larger than the average of all the farms in the area, the crop yields were above the average, and the farm operators were more skillful than the average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 8 and Figure 1 are particularly well adapted for such a comparison because they contain measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

^{1/} F. J. Reiss supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

H. D. Triplett, Ford County
J. E. Harris, Champaign County
E. D. VanMatre, Iroquois County
I. E. Paret, Vermilion County
J. R. Gilkey, Macon County
Edwin Bay, Sangamon County
G. T. Swain, Kankakee County
L. W. Chalcraft, Menard County
L. W. Braham, Will County
H. N. Myers, DeWitt County

W. P. Miller, Kendall County
L. E. McKinzie, Edgar County
J. Q. Scott, Douglas County
W. S. Myers, Coles County
Paul M. Krows, Moultrie County
E. O. Johnston, Piatt County
N. H. Anderson, Logan County
R. V. Watson, Mason County
G. H. Husted, Cass County

TABLE 1.--INVENTORY CHANGES, CASH RECEIPTS, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 4, 1937-1940

Item	Your farm	Average of all farms in area			
		1940	1939	1938	1937
Number of farms- - - - -	--	582	559	767	494
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$	\$ 83	\$ 155	\$ 116	\$ 84
Livestock- - - - -		270	159	107	119
Feed and grain - - - - -		-104	994	134	489
Machinery and equipment- - - - -		104	99	162	337
Automobile (farm share)- - - - -		15	10	--	--
Total- - - - -	\$	\$ 368	\$1 417	\$ 519	\$1 029
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$	\$ 17	\$ 13	\$ 12	\$ 3
Horses - - - - -		47	62	80	107
Productive livestock: Cattle - - - - -		1 624	1 382	1 312	986
Dairy sales- - - - -		418	367	491	492
Hogs - - - - -		1 012	945	1 283	1 094
Sheep- - - - -		88	118	180	64
Poultry- - - - -		111	102	118	125
Egg sales- - - - -		156	130	172	163
Total productive livestock - - - - -	()	(3 409)	(3 044)	(3 556)	(2 924)
Feed and grain - - - - -		2 801	2 466	2 355	2 456
Machinery and equipment- - - - -		291	280	313	341
Automobile (farm share)- - - - -		52	38	36	--
Labor off farm - - - - -		40	50	67	88
Miscellaneous- - - - -		9	11	7	6
AAA payments - - - - -		577	679	250	201
Total- - - - -	\$	\$7 243	\$6 643	\$6 676	\$6 126
<u>Cash Expenses-</u>					
Farm improvements- - - - -	\$	\$ 383	\$ 421	\$ 401	\$ 306
Horses - - - - -		22	33	34	54
Productive livestock: Cattle - - - - -		873	782	702	496
Hogs - - - - -		87	115	107	82
Sheep- - - - -		56	64	108	20
Poultry- - - - -		30	30	33	29
Total productive livestock - - - - -	()	(1 046)	(991)	(950)	(627)
Feed and grain - - - - -		530	535	434	479
Machinery and equipment- - - - -		1 122	1 042	1 138	1 212
Automobile (farm share)- - - - -		189	164	155	--
Hired labor- - - - -		436	432	458	376
Miscellaneous- - - - -		30	29	36	28
Crop expense - - - - -		172	153	184	331
Livestock expense-----		52	56	54	39
Taxes- - - - -		397	373	360	319
Total- - - - -	\$	\$4 379	\$4 229	\$4 204	\$3 771
<u>Summary</u>					
Cash balance - - - - -	\$	\$2 864	\$2 414	\$2 472	\$2 355
Farm products used in household/-		225	235	265	--
Total inventory change - - - - -		368	1 417	519	1 029
Receipts less expenses - - - - -		\$3 457	\$4 066	\$3 256	\$3 384
Total unpaid labor - - - - -		696	695	712	757
Net earnings per farm- - - - -	\$	\$2 761	\$3 371	\$2 544	\$2 627
Net earnings per acre- - - - -	\$	\$10.19	\$12.60	\$ 9.67	\$10.30

a/ Not included as income for 1937.

Inventory changes.--The year 1940 was the fifth consecutive year of increasing inventories, ranging from an increase of \$368 in 1940 to \$1417 in 1939 (Table 1). One of the largest increases in 1940 was for livestock. The increase in grain prices was not sufficient to offset the decrease in the quantity of corn on farms at the end of the year. The average amounts of grain on hand in Area 4 at the two inventory periods follow:

<u>Crop</u>	<u>Beginning of year (bushels)</u>	<u>End of year (bushels)</u>
Corn	5 004	4 064
Oats	612	1 025
Wheat	155	255
Soybeans	254	413

Summary of cash receipts and cash expenses.--Cash receipts exceeded cash expenses in 1940 by \$2,864 or by a larger margin than that for any other year during the past four. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The uniformity in valuation of unpaid labor was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$50 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$2,761 in 1940 compared with \$3,371 for 1939. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 4; for example, 121 farms earned less than 4 percent on their investment, with an average rate earned of 2.5 percent, but 12 farms earned 13 percent or more, with an average rate earned of 14.1 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$412 for labor and management earnings contrasted with a gain of \$3,544 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

<u>Rate earned on investment (percent)</u>	<u>Number of farms</u>	<u>Average rate earned (percent)</u>	<u>Acres per farm</u>	<u>Capital invested per farm</u>	<u>Gross earnings per farm</u>	<u>Net earnings per farm</u>	<u>Labor and management earnings</u>
Less than 4%	121	2.5	226	\$36 860	\$3 963	\$ 929	\$ -412
4.00 to 6.99	220	5.7	277	43 615	5 589	2 488	855
7.00 to 9.99	188	8.3	281	43 280	6 555	3 576	1 955
10.00 to 12.99	46	11.2	292	42 206	7 768	4 748	3 207
13.00 or more	12	14.1	273	33 449	7 897	4 710	3 544

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 4, 1940

Item	Your farm	Standards for your farm	Average of all farms
Rate earned on investment- - - - -	_____ %	6.5%	6.5%
Number of farms- - - - -	--	--	582
Acres in farm - - - - -	_____	271	271
Acres tillable - - - - -	_____	245	245
Acres in crops - - - - -	_____	202	202
Gross earnings per acre- - - - -	\$ _____	\$ _____ a/	\$21.06
Total expenses per acre- - - - -	_____	_____	10.87
Net earnings per acre- - - - -	_____	_____	10.19
<u>Investments</u>			
Value of land per acre - - - - -	\$ _____	\$ 107	\$ 107
Value of improved land per acre- - - - -	_____	_____ a/	110
Value of improvements per acre - - - - -	_____	16	16
Total investment per acre- - - - -	_____	156	156
<u>Land Use</u>			
Percent of land area tillable- - - - -	_____	_____ a/	90.3
Percent of tillable land in:			
Corn - - - - -	_____	_____	30.5
Oats - - - - -	_____	_____	12.1
Wheat- - - - -	_____	_____	7.7
Soybeans - - - - -	_____	_____	15.7
Other crops - - - - -	_____	_____	8.2
Legume hay and pasture - - - - -	_____	_____	17.3
Nonlegume hay and pasture- - - - -	_____	_____	8.5
<u>Crop Yields</u>			
Corn, bu.- - - - -	_____	_____ b/	53.3
Oats, bu.- - - - -	_____	_____	57.6
Wheat, bu. - - - - -	_____	_____	26.6
Soybeans, bu.- - - - -	_____	_____	19.8
<u>Livestock Factors</u>			
Value of feed fed to produce livestock - - - - -	\$ _____	\$ 1 949	\$1 949
Feed fed per acre to produce livestock - - - - -	_____	_____ c/	7.19
Returns per \$100 worth of feed fed - - - - -	_____	2.79	2.79
Number of litters farrowed - - - - -	_____	13.5	13.5
Number of pigs weaned per litter - - - - -	_____	6.1	6.1
Returns per litter farrowed- - - - -	\$ _____	\$ 76	\$ 76
Average number of cows milked- - - - -	_____	5.5	5.5
Dairy returns per cow milked - - - - -	\$ _____	\$ _____ c/	\$ 90
<u>Expense Factors</u>			
Machinery cost per crop acre - - - - -	\$ _____	\$ _____ a/	\$ 4.21
Horse and machinery cost per crop acre - - - - -	_____	_____ a/	4.85
Labor cost per crop acre - - - - -	_____	_____	5.41
Total months of labor- - - - -	_____	_____ e/	22.0
Number of work horses- - - - -	_____	_____	3.2
Improvement cost per acre - - - - -	\$ _____	\$ _____	\$ 1.04
Land tax per acre- - - - -	_____	_____ a/	1.30

Source of Standards:

a/ Table 3, value of land.

b/ Fig. 1, value of land.

c/ Table 4, source of income.

d/ Table 6, size of farm and value of feed fed.

e/ Table 5, size of farm.

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

[illegible]

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 4, 1940

Item	Value of Improved Land					
	Less than \$53	\$53 to \$72	\$73 to \$92	\$93 to \$112	\$113 to \$132	More than \$132
Average value of improved land - -	\$ 41	\$ 64	\$ 84	\$ 102	\$ 123	\$ 145
Number of farms - - - - -	27	43	70	150	170	122
Acres per farm - - - - -	279	283	281	263	261	282
Percent of land area tillable - -	79.4	82.2	88.1	89.2	93.2	94.4
Percent of tillable land in:						
Corn - - - - -	26.8	26.3	28.8	31.4	31.6	31.2
Oats - - - - -	10.4	10.8	10.3	13.7	12.7	11.4
Wheat - - - - -	14.3	10.2	10.7	6.7	6.0	7.1
Soybeans - - - - -	5.6	9.3	12.7	15.6	16.9	19.7
Others crops - - - - -	17.5	11.4	8.9	7.3	7.8	6.8
Legume hay and pasture - - -	17.3	21.0	18.0	16.3	17.0	16.6
Nonlegume hay and pasture - -	8.1	11.0	10.6	8.5	8.0	7.2
Gross earnings per acre - - - -	\$13.13	\$16.29	\$18.46	\$20.93	\$22.73	\$23.96
Total expenses per acre - - - -	<u>7.38</u>	<u>9.19</u>	<u>10.21</u>	<u>11.06</u>	<u>11.55</u>	<u>11.50</u>
Net earnings per acre - - - -	\$ 5.75	\$ 7.10	\$ 8.25	\$ 9.87	\$11.18	\$12.46
Land tax per acre - - - - -	\$.94	\$ 1.07	\$ 1.14	\$ 1.28	\$ 1.38	\$ 1.48

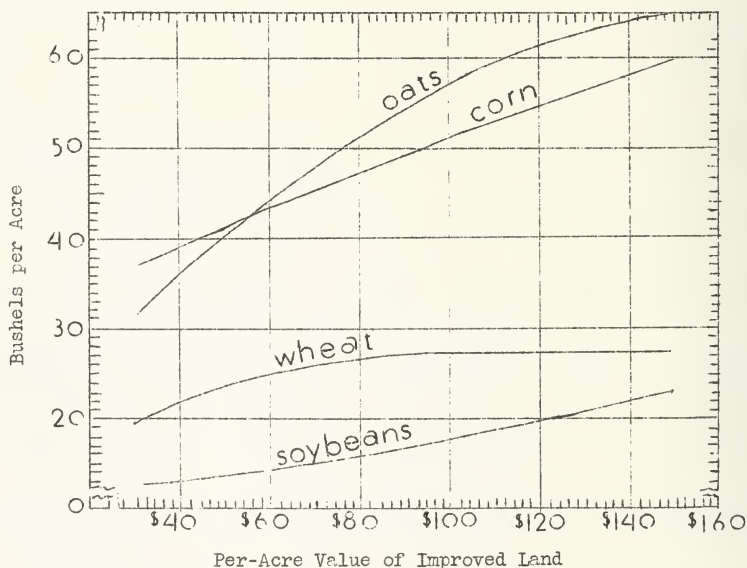


Fig. 1.--Average yields of corn, oats, wheat, and soybeans with varying values of improved land.

Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per \$100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1. They are classified as follows:

Table 3 - Value of improved land.

Gross earnings, total expenses, and net earnings per acre.
All items in the land-use section (Table 2).
Land tax per acre.

Figure 1 - Value of improved land.

Yields for corn, oats, and wheat.

Table 4 - Source of income.

Feed fed per acre to productive livestock.
Returns per \$100 worth of feed fed.
Dairy returns per cow.

Table 5 - Size of farm.

Total months of labor.
Number of work horses.
Improvement cost per acre.

Table 6 - Size of farm and amount of feed fed per acre.

Horse and machinery cost per crop acre.
Labor cost per crop acre.

The terms used in the tables are the same as those used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on Page 18, Line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields.--The percent of tillable land in grain crops and "other crops" increased from 68 to 76 as the value per acre for improved land increased from an average of \$64 to \$145 (Table 3). Likewise, the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, wheat, and soybeans increased as the land value increased from \$30 per acre to \$150 per acre (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and net income per acre were high or low for 1940 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 4, 1940

Item	Source of income					
	Grain 40%+	Dairy sales 40%+	Hogs 40%+	Cattle 40%+	General farms	
					L.S. 60%-	L.S. 60%+
Number of farms - - - - -	298	18	41	54	111	60
Percent of income from prod. l.s.	26.1	74.6	84.4	88.9	48.7	72.0
Percent of income from crops - -	59.0	13.0	--	--	33.0	13.7
<u>Investments</u>						
Total per farm- - - - -	\$44 812	\$35 054	\$30 793	\$56 974	\$36 460	\$36 063
Total per acre- - - - -	153	166	142	170	156	159
Land per acre - - - - -	111	105	92	107	105	99
Improvements per acre - - - - -	14	23	17	18	17	22
Machinery per acre - - - - -	9	9	10	9	9	10
<u>Earnings</u>						
Per farm						
Gross earnings- - - - -	\$ 5 954	\$ 5 049	\$ 4 325	\$ 8 290	\$ 4 853	\$ 5 142
Gross expenses- - - - -	2 967	2 988	2 584	4 137	2 637	2 841
Net earnings- - - - -	\$ 2 987	\$ 2 061	\$ 1 741	\$ 4 153	\$ 2 216	\$ 2 301
Per acre						
Gross earnings- - - - -	\$ 20.55	\$ 23.92	\$ 19.89	\$ 24.72	\$ 20.71	\$ 22.62
Gross expenses- - - - -	10.14	14.16	11.88	12.34	11.25	12.50
Net earnings- - - - -	\$ 10.21	\$ 9.76	\$ 8.01	\$ 12.38	\$ 9.46	\$ 10.12
Rate earned on investment - - -	6.7%	5.9%	5.7%	7.3%	6.1%	6.4%
Labor and management earnings -	\$ 1 287	\$ 821	\$ 751	\$ 1 854	\$ 940	\$ 1 037
<u>Size and Intensity</u>						
Acres per farm- - - - -	\$ 292.6	\$ 211.1	\$ 217.5	\$ 335.4	\$ 234.3	\$ 227.3
Percent of land area tillable -	92.1	85.6	81.7	89.8	90.2	87.0
Percent tillable land in grain-	69.3	57.2	64.7	63.1	63.6	59.8
Percent in hay and pasture- - -	21.6	35.8	29.8	32.9	27.7	34.8
Feed fed per acre to prod. l.s.	\$ 3.80	\$ 11.05	\$ 13.11	\$ 16.34	\$ 7.53	\$ 11.20
Months of labor per 100 crop A.	9.3	17.3	14.0	12.0	11.8	15.3
Total months of labor - - - - -	21.3	24.8	20.4	28.0	20.5	23.5
<u>Crop Yields per Acre</u>						
Corn, bu. - - - - -	53.6	48.6	54.5	56.4	50.5	52.3
Soybeans, bu. - - - - -	20.1	19.0	18.3	20.6	19.0	20.1
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 155	\$ 169	\$ 134	\$ 138	\$ 144	\$ 153
Hog returns per litter- - - - -	71	78	86	67	76	81
Dairy returns per cow - - - - -	77	146	69	76	90	97
<u>Expense Factors</u>						
Labor cost per crop acre- - - -	\$ 4.63	\$ 9.08	\$ 6.82	\$ 5.99	\$ 5.77	\$ 7.55
Horse and machinery cost						
per crop acre - - - - -	4.45	6.77	5.69	5.68	4.88	5.67
Improvement cost per acre - - -	.92	1.17	1.16	1.26	1.08	1.33
Land tax per acre - - - - -	1.34	1.25	1.21	1.29	1.27	1.30

Source of income.--The grouping of accounting farms according to source of income for 1940 gives each farmer an opportunity to compare his farm with the average of others having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that cattle farms showed the largest rate earned on the investment for 1940 and that hog farms showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1940 was due largely to conditions affecting price and production. It is significant, however, that the average rate earned on grain farms for the last 14 years has been above the average for all accounting farms in the area.

When comparing the returns on the various groups of farms per \$100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per \$100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117.

Furthermore, when comparing crop yields for the various types of farming, one should note the following items which indicate that the grain farms were located on the better land: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; and (4) high land tax per acre.

Differences in expenses, on the other hand, are highly significant for the five groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 17.3 months of labor were used, and lowest on the grain farms, where 9.3 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from \$4.63 on the grain farms to \$9.08 on the dairy farms; the horse and machinery cost per crop acre was highest on the dairy farms, where it averaged \$6.77, and lowest on the grain farms, where it averaged \$4.45; and the improvement cost per acre averaged \$1.33 on the general farms with the most livestock and \$.92 on the grain farms.

Size of farm.--When the farm records in Farming-Type Area 4 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 61 farms with more than 441 acres had labor and management earnings which averaged \$2,378 contrasted with \$499 for the 53 smallest farms. The smaller farms had higher investments per acre for improvements, machinery, and total investment, indicating a higher capital input. The rate earned on investment was significantly greater for the larger farms than for the smaller ones.

The smaller farms were operated more intensively than the larger ones. This variation was indicated by the much higher gross earnings per acre, and by the larger labor and feed input per acre.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 4, 1940

Item	Total acres in farm					
	Less than 121	121 to 200	201 to 280	281 to 360	361 to 440	441 or more
Number of farms - - - - -	53	165	150	109	44	61
Acres per farm - - - - -	103	170	244	321	399	573
<u>Investments</u>						
Total per farm - - - - -	\$16 501	\$27 331	\$39 239	\$50 161	\$60 666	\$84 065
Total per acre - - - - -	160	161	161	156	152	147
Land per acre - - - - -	98	108	112	109	104	103
Improvements per acre - - - -	24	18	16	15	15	15
Machinery per acre - - - - -	11.56	10.31	9.50	9.14	8.33	7.48
<u>Earnings</u>						
Per farm						
Gross earnings - - - - -	\$ 2 368	\$ 3 821	\$ 5 258	\$ 6 669	\$ 7 837	\$11 542
Gross expenses - - - - -	1 594	2 083	2 726	3 335	4 086	5 462
Net earnings - - - - -	\$ 774	\$ 1 738	\$ 2 532	\$ 3 334	\$ 3 751	\$ 6 080
Per acre						
Gross earnings - - - - -	\$ 22.97	\$ 22.49	\$ 21.54	\$ 20.76	\$ 19.66	\$ 20.13
Gross expenses - - - - -	15.46	12.26	11.17	10.38	10.25	9.53
Net earnings - - - - -	\$ 7.51	\$ 10.23	\$ 10.37	\$ 10.38	\$ 9.41	\$ 10.60
Rate earned on investment - - -	4.7%	6.4%	6.5%	6.6%	6.2%	7.2%
Labor and management earnings -	\$ 499	\$ 930	\$ 1 113	\$ 1 361	\$ 1 263	\$ 2 378
<u>Size and Intensity</u>						
Percent of land area tillable -	91.3	90.6	90.7	90.5	88.2	90.4
Percent tillable land in grain-	63.5	66.9	66.4	67.7	68.0	64.2
Percent in hay and pasture - -	31.7	27.0	25.6	23.1	24.4	27.1
Feed fed per acre to prod. l.s.	\$ 10.18	\$ 8.02	\$ 6.42	\$ 6.77	\$ 7.30	\$ 7.26
Percent of income from prod.l.s.	63.0	51.8	42.0	44.7	50.5	46.6
Percent of income from crops -	19.7	32.1	42.0	41.2	35.6	39.9
Months of labor per 100 crop A.	19.2	13.3	11.2	10.0	9.9	8.8
Total months of labor - - - - -	14.9	16.9	20.7	24.3	28.9	36.1
Number of work horses - - - - -	2.3	2.5	3.2	3.4	4.1	4.7
<u>Crop Yields per Acre</u>						
Corn, bu. - - - - -	50.0	52.1	53.2	52.6	52.7	55.9
Soybeans, bu. - - - - -	18.5	19.1	20.1	20.0	19.9	20.2
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 155	\$ 156	\$ 153	\$ 146	\$ 143	\$ 134
Hog returns per litter - - - -	77	75	75	80	76	71
Dairy returns per cow - - - - -	82	91	99	90	71	73
<u>Expense Factors</u>						
Labor cost per crop acre - - -	\$ 9.30	\$ 6.53	\$ 5.52	\$ 5.01	\$ 4.89	\$ 4.37
Horse and machinery cost per crop acre - - - - -	6.13	5.17	5.01	4.45	5.00	4.62
Improvement cost per acre - - -	1.33	1.17	1.04	1.09	.93	.92
Land tax per acre - - - - -	1.32	1.31	1.31	1.31	1.31	1.31

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses.--Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Therefore, the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per crop acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 4, 1940

Acres per farm	Feed fed per acre				Feed fed per acre			
	Less than \$4.00	\$4.00 to \$7.99	\$8.00 to 11.99	\$12.00 or more	Less than \$4.00	\$4.00 to \$7.99	\$8.00 to 11.99	\$12.00 or more
	(labor cost per crop acre)				(horse and machinery cost per crop acre)			
41 to 120	\$6.30	\$8.47	\$10.12	\$11.45	\$4.90	\$5.40	\$6.80	\$7.40
121 to 200	5.50	6.00	7.42	8.00	4.46	4.94	5.39	6.21
201 to 280	4.93	5.27	6.30	7.33	4.32	4.82	5.16	6.00
281 to 360	4.23	5.13	5.70	6.10	4.22	4.70	5.18	5.80
361 to 440	4.10	4.71	5.08	5.61	4.18	4.70	5.21	5.75
441 or more	3.37	4.70	5.10	5.18	3.91	4.70	5.27	5.44

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and source of farm income (Tables 7 and 8).

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 4, 1940

Item	Your farm	Average of all farms	Ford	Champaign
Number of farms - - - - -	--	582	58	47
<u>Capital Investments</u>				
Land- - - - -	\$	\$29 028	\$31 185	\$32 349
Farm improvements - - - - -		4 353	3 886	3 790
Horses- - - - -		345	372	271
Productive livestock: Cattle- - - - -		1 561	1 483	1 043
Hogs- - - - -		463	285	336
Sheep - - - - -		77	53	66
Poultry - - - - -		99	98	82
Total productive livestock- - - - -	()	(2 200)	(1 919)	(1 527)
Feed and grain- - - - -		3 776	4 166	3 870
Machinery and equipment - - - - -		2 249	2 283	2 236
Automobile (farm share) - - - - -		205	203	223
Total - - - - -	\$	\$42 156	\$44 014	\$44 266
<u>Receipts and Net Increases</u>				
Horses- - - - -	\$	\$ --	\$ --	\$ --
Productive livestock: Cattle- - - - -		1 019	1 027	615
Dairy sales - - - - -		418	249	378
Hogs- - - - -		948	717	686
Sheep - - - - -		61	70	52
Poultry - - - - -		85	94	93
Egg sales - - - - -		156	136	145
Total productive livestock- - - - -	()	(2 687)	(2 293)	(1 969)
Farm products used in household - - - - -		225	205	205
Feed and grain - - - - -		2 167	2 198	2 719
Labor off farm - - - - -		40	37	31
Miscellaneous - - - - -		9	4	4
AAA payments- - - - -		577	556	722
Total - - - - -	\$	\$ 5 705	\$ 5 293	\$ 5 650
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$	\$ 283	\$ 226	\$ 297
Horses - - - - -		29	25	31
Productive livestock- - - - -		--	--	--
Feed and grain- - - - -		--	--	--
Machinery and equipment - - - - -		727	645	729
Automobile (farm share) - - - - -		122	120	136
Hired labor - - - - -		436	333	347
Miscellaneous - - - - -		30	31	28
Crop expense- - - - -		172	176	158
Livestock expense - - - - -		52	38	32
Taxes - - - - -		397	376	396
Total - - - - -	\$	\$ 2 248	\$ 1 970	\$ 2 154
Receipts less expenses- - - - -	\$	\$ 3 457	\$ 3 323	3 496
Family labor- - - - -		153	103	104
Returns for labor, capital, mgt.- - - - -	\$	\$ 3 304	\$ 3 220	\$ 3 392
Operator's labor- - - - -		543	577	512
Returns for capital and mgt.- - - - -	\$	\$ 2 761	\$ 2 643	\$ 2 880
Rate Earned on Investment - - - - -	%	6.5%	6.0%	6.5%
Interest on investment- - - - -	\$	\$ 2 108	\$ 2 200	\$ 2 214
Labor and Management Earnings - - - - -		1 196	1 020	1 178
Nonfarm income- - - - -	\$	\$ 68	\$ 68	\$ 61

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 4, 1940 (Cont'd)

Iroquois	Vermilion	Macon	Sangamon	Kankakee	Menard	Will	DeWitt
44	43	36	35	31	31	30	29
\$27 028	\$29 376	\$34 046	\$30 279	\$23 126	\$23 650	\$19 411	\$27 605
4 519	5 210	3 672	4 464	4 568	3 902	4 853	4 066
368	344	297	398	277	328	309	275
1 267	1 330	1 281	2 665	1 589	1 276	2 245	2 041
319	480	362	920	235	657	365	369
160	52	55	73	7	79	22	185
108	74	106	95	107	111	122	71
(1 854)	(1 936)	(1 804)	(3 753)	(1 938)	(2 123)	(2 754)	(2 666)
3 753	3 679	3 961	3 388	3 905	2 778	2 642	3 583
2 233	2 395	2 126	1 737	2 280	2 049	2 170	2 277
194	257	236	141	216	225	172	171
\$39 949	\$43 197	\$46 142	\$44 160	\$36 310	\$35 055	\$32 311	\$40 643
\$ --	\$ --	\$ --	\$ --	\$ --	\$ --	\$ --	\$ --
911	614	919	1 971	630	859	1 260	1 614
432	395	369	356	749	208	980	515
728	906	834	1 540	474	1 438	575	825
88	72	46	72	13	82	8	158
118	74	55	47	154	85	56	55
150	110	144	109	148	179	236	107
(2 427)	(2 171)	(2 367)	(4 095)	(2 168)	(2 851)	(3 115)	(3 274)
219	234	201	223	209	246	188	235
2 433	2 772	2 844	464	1 722	1 743	1 090	2 140
46	62	28	26	45	30	37	46
5	12	8	20	16	6	5	16
536	702	633	458	407	744	319	463
\$ 5 666	\$ 5 953	\$ 6 081	\$ 5 286	\$ 4 567	\$ 5 620	\$ 4 754	\$ 6 174
\$ 310	\$ 295	\$ 256	\$ 336	\$ 241	\$ 267	\$ 255	\$ 237
28	19	37	27	25	34	32	43
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
621	804	781	727	649	652	563	826
120	136	135	84	127	104	120	103
416	499	351	671	349	467	308	417
27	26	24	28	24	28	33	23
214	198	124	156	187	132	170	143
59	51	42	73	57	48	48	61
396	540	456	381	275	345	233	413
\$ 2 191	\$ 2 568	\$ 2 206	\$ 2 483	\$ 1 934	\$ 2 077	\$ 1 762	\$ 2 266
\$ 3 475	\$ 3 385	\$ 3 875	\$ 2 803	\$ 2 633	\$ 3 543	\$ 2 992	\$ 3 908
200	117	168	81	194	161	192	221
\$ 3 275	\$ 3 238	\$ 3 707	\$ 2 722	\$ 2 439	\$ 3 382	\$ 2 800	\$ 3 687
570	550	559	463	566	505	573	507
\$ 2 705	\$ 2 688	\$ 3 148	\$ 2 259	\$ 1 873	\$ 2 877	\$ 2 227	\$ 3 180
6.8%	6.2%	6.8%	5.1%	5.2%	8.2%	6.9%	7.8%
\$ 1 997	\$ 2 160	\$ 2 307	\$ 2 208	\$ 1 815	\$ 1 753	\$ 1 616	\$ 2 032
1 278	1 078	1 400	514	624	1 629	1 184	1 655
\$ 46	\$ 85	\$ 74	\$ 63	\$ 63	\$ 106	\$ 93	\$ 83

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 4, 1940 (Cont'd)

Item	Kendall	Edgar, Douglas, Coles	Moultrie, Piatt, Logan	Mason and Cass
Number of farms - - - - -	28	59	59	52
<u>Capital Investments</u>				
Land- - - - -	\$27 158	\$35 085	\$33 946	\$22 336
Farm improvements - - - - -	7 187	4 640	4 215	3 241
Horses- - - - -	349	325	386	443
Productive livestock: Cattle- - - - -	2 709	1 437	1 607	969
Hogs- - - - -	912	645	372	434
Sheep - - - - -	138	67	101	43
Poultry - - - - -	153	95	92	95
Total productive livestock- - - - -	(3 912)	(2 244)	(2 172)	(1 541)
Feed and grain- - - - -	4 211	4 348	4 234	3 371
Machinery and equipment - - - - -	2 517	2 901	2 204	1 842
Automobile (farm share) - - - - -	185	201	215	205
Total - - - - -	\$45 519	\$49 744	\$47 372	\$32 979
<u>Receipts and Net Increases</u>				
Horses- - - - -	\$ --	\$ --	\$ --	\$ --
Productive livestock: Cattle- - - - -	1 502	1 266	1 007	557
Dairy sales - - - - -	862	265	422	205
Hogs- - - - -	1 667	1 360	844	886
Sheep - - - - -	46	55	64	36
Poultry - - - - -	89	92	73	83
Egg sales - - - - -	346	132	144	177
Total productive livestock- - - - -	(4 512)	(3 170)	(2 554)	(1 944)
Farm products used in household - - - - -	232	249	231	252
Feed and grain - - - - -	1 021	2 494	2 697	2 389
Labor off farm - - - - -	71	55	30	28
Miscellaneous - - - - -	26	13	5	4
AAA payments- - - - -	464	599	633	635
Total - - - - -	\$ 6 326	\$ 6 580	\$ 6 150	\$ 5 252
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ 463	\$ 331	\$ 285	\$ 207
Horses - - - - -	35	21	34	38
Productive livestock- - - - -	--	--	--	--
Feed and grain- - - - -	--	--	--	--
Machinery and equipment - - - - -	731	869	856	627
Automobile (farm share) - - - - -	135	127	145	105
Hired labor - - - - -	533	548	484	377
Miscellaneous - - - - -	64	30	32	27
Crop expense- - - - -	214	202	172	138
Livestock expense - - - - -	94	54	58	42
Taxes - - - - -	345	455	461	352
Total - - - - -	\$ 2 614	\$ 2 637	\$ 2 527	\$ 1 913
Receipts less expenses- - - - -	\$ 3 712	\$ 3 943	\$ 3 623	\$ 3 339
Family labor- - - - -	141	193	101	188
Returns for labor, capital, mgt.- - - - -	\$ 3 571	\$ 3 750	\$ 3 522	\$ 3 151
Operator's labor- - - - -	574	520	560	540
Returns for capital and mgt.- - - - -	\$ 2 997	\$ 3 230	\$ 2 962	\$ 2 611
Rate Earned on Investment - - - - -	6.6%	6.5%	6.3%	7.9%
Interest on investment- - - - -	\$ 2 276	\$ 2 487	\$ 2 369	\$ 1 649
Labor and Management Earnings - - - - -	1 295	1 263	1 153	1 502
Nonfarm income- - - - -	\$ 31	\$ 80	\$ 47	\$ 64

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 4, 1940

Item	Average of all farms	Ford	Champaign	Iroquois
Rate earned on investment- - - - -	6.5%	6.0%	6.5%	6.8%
Acres in farm- - - - -	271	259	244	270
Acres tillable - - - - -	245	246	227	245
Acres in crops - - - - -	202	203	188	201
Gross earnings per acre- - - - -	\$21.06	\$20.43	\$23.17	\$20.99
Total expenses per acre ^a / - - - - -	10.87	10.23	11.36	10.97
Net earnings per acre- - - - -	\$10.19	\$10.20	\$11.81	\$10.02
<u>Investments</u>				
Value of land per acre - - - - -	\$ 107	\$ 120	\$ 133	\$ 100
Value of improved land per acre- -	110	120	134	102
Value of improvements per acre - -	16	15	16	17
Total investment per acre- - - - -	156	170	182	148
<u>Land Use</u>				
Percent of land area tillable- - - -	90.3	94.8	92.9	90.9
Percent of tillable land in:				
Corn - - - - -	30.5	36.3	32.2	31.9
Oats - - - - -	12.1	21.8	9.4	16.4
Wheat - - - - -	7.7	.3	4.0	1.4
Soybeans - - - - -	15.7	10.5	23.9	14.2
Other crops- - - - -	8.2	6.7	6.8	10.9
Legume hay and pasture - - - - -	17.3	18.7	16.7	17.8
Nonlegume hay and pasture- - - - -	8.5	5.7	7.0	7.4
<u>Crop Yields</u>				
Corn, bu.- - - - -	53.3	44.5	55.1	52.8
Oats, bu.- - - - -	57.6	55.3	59.8	54.5
Wheat, bu.- - - - -	26.6	20.0	24.2	23.1
Soybeans, bu.- - - - -	19.8	14.1	21.6	18.5
<u>Livestock Factors</u>				
Value of feed fed to productive l.s.	\$1 949	\$1 684	\$1 255	\$1 686
Feed fed per acre to productive l.s.	7.19	6.50	5.15	6.24
Returns per \$100 worth of feed fed -	147	146	169	154
Poultry returns per hen- - - - -	2.79	2.55	2.90	2.81
Number of litters farrowed - - - -	13.5	10.6	9.9	9.8
Number of pigs weaned per litter - -	6.1	6.0	6.4	6.8
Returns per litter farrowed- - - -	\$ 76	\$ 70	\$ 81	\$ 86
Average number of cows milked- - -	5.5	4.6	5.0	6.1
Dairy returns per cow milked - - -	\$ 90	\$ 72	\$ 89	\$ 82
<u>Expense Factors</u>				
Machinery cost per crop acre ^b / - - -	\$ 4.21	\$ 3.77	\$ 4.61	\$ 3.68
Horse and machinery cost per crop A.	4.85	4.28	5.10	4.31
Labor cost per crop acre ^a / - - - -	5.41	4.81	4.97	5.66
Total months of labor- - - - -	22.0	20.1	18.9	22.7
Number of work horses- - - - -	3.2	3.1	2.5	3.1
Improvement cost per acre- - - - -	\$ 1.04	\$.87	\$ 1.22	\$ 1.15
Taxes per acre - - - - -	1.47	1.45	1.62	1.47

^a/ Includes operator's and family labor.

^b/ Includes farm share of automobile.

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 4, 1940 (Cont'd)

Item	Vermilion	Macon	Sangamon	Kankakee
Rate earned on investment- - - - -	6.2%	6.8%	5.1%	5.2%
Acres in farm- - - - -	297	260	277	241
Acres tillable - - - - -	274	243	242	223
Acres in crops - - - - -	226	206	192	185
Gross earnings per acre- - - - -	\$20.04	\$23.43	\$19.10	\$18.95
Total expenses per acre ^a / - - - - -	10.99	11.30	10.94	11.18
Net earnings per acre- - - - -	\$ 9.05	\$12.13	\$ 8.16	\$ 7.77
<u>Investments</u>				
Value of land per acre - - - - -	\$ 99	\$ 131	\$ 109	\$ 96
Value of improved land per acre- - -	101	132	112	98
Value of improvements per acre - - -	18	14	16	19
Total investment per acre- - - - -	145	178	160	151
<u>Land Use</u>				
Percent of land area tillable- - - -	92.2	93.8	87.4	92.5
Percent of tillable land in:				
Corn - - - - -	29.7	30.4	29.1	32.4
Oats - - - - -	8.2	7.1	9.4	16.6
Wheat- - - - -	7.9	8.8	12.9	1.3
Soybeans - - - - -	18.0	22.1	10.7	16.6
Other crops- - - - -	11.7	7.8	6.5	8.3
Legume hay and pasture - - - - -	16.0	15.0	18.9	16.1
Nonlegume hay and pasture- - - - -	8.5	8.8	12.5	8.7
<u>Crop Yields</u>				
Corn, bu. - - - - -	50.9	59.2	53.7	42.3
Oats, bu. - - - - -	57.0	64.8	59.2	51.2
Wheat, bu. - - - - -	25.9	26.9	29.9	19.3
Soybeans, bu. - - - - -	18.8	20.0	19.8	16.5
<u>Livestock Factors</u>				
Value of feed fed to productive l.s.	\$1 675	\$1 603	\$3 328	\$1 443
Feed fed per acre to productive l.s.	5.64	6.18	12.02	5.99
Returns per \$100 worth of feed fed -	141	157	128	161
Poultry returns per hen- - - - -	3.01	2.72	2.26	3.50
Number of litters farrowed - - - - -	13.1	12.5	21.5	6.6
Number of pigs weaned per litter - -	5.9	6.2	5.5	6.4
Returns per litter farrowed- - - - -	\$ 76	\$ 80	\$ 62	\$ 80
Average number of cows milked- - - -	6.1	4.3	5.9	7.5
Dairy returns per cow milked - - - -	\$ 79	\$ 101	\$ 72	\$ 110
<u>Expense Factors</u>				
Machinery cost per crop acre ^b / - - -	\$ 4.15	\$ 4.45	\$ 4.22	\$ 4.19
Horse and machinery cost per crop A.	4.64	5.09	5.17	4.92
Labor cost per crop acre ^a / - - - - -	5.13	5.10	6.19	5.80
Total months of labor- - - - -	22.7	21.5	23.3	21.6
Number of work horses- - - - -	2.8	2.9	4.1	2.4
Improvement cost per acre- - - - -	\$.99	\$.99	\$ 1.21	\$ 1.00
Taxes per acre- - - - -	1.82	1.76	1.38	1.14

^a/ Includes operator's and family labor.^b/ Includes farm share of automobile.

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 4, 1940 (Cont'd)

Menard	Will	DeWitt	Kendall	Edgar, Douglas, Coles	Moultrie, Piatt, Logan	Mason, Cass
8.2%	6.9%	7.8%	6.6%	6.5%	6.3%	7.9%
262	204	267	235	309	290	309
226	182	234	210	278	264	262
184	159	199	182	224	215	216
\$21.45	\$23.27	\$23.15	\$26.89	\$21.29	\$21.21	\$16.97
10.47	12.37	11.25	14.15	10.84	10.99	8.54
\$10.98	\$10.90	\$11.92	\$12.74	\$10.45	\$10.22	\$ 8.43
\$ 90	\$ 95	\$ 104	\$ 115	\$ 114	\$ 117	\$ 72
90	96	107	120	117	120	76
15	24	15	31	15	15	10
134	158	152	193	161	163	107
86.3	89.1	87.6	89.2	90.0	91.1	84.8
27.3	31.7	33.2	34.6	28.1	27.9	26.9
11.2	16.8	13.1	23.8	6.5	8.5	10.4
15.8	3.4	5.3	2.2	8.1	9.3	21.1
9.8	14.7	16.6	4.9	22.3	21.1	5.8
7.3	6.1	4.1	7.9	7.5	8.0	12.2
19.0	15.2	17.5	21.1	16.4	16.6	18.0
9.6	12.1	10.2	5.5	11.1	8.6	5.6
56.4	46.0	55.7	54.2	62.0	60.2	48.6
52.8	62.2	57.4	71.8	59.4	63.2	46.1
28.7	26.1	27.5	29.8	23.5	27.7	26.7
17.1	20.3	22.2	21.3	20.8	22.7	17.1
\$2 050	\$2 182	\$2 053	\$3 290	\$2 394	\$1 938	\$1 466
7.82	10.68	7.70	13.98	7.75	6.68	4.74
148	150	168	143	140	141	146
2.74	2.85	2.31	3.01	3.03	2.59	2.75
21.4	10.1	10.8	20.1	18.3	12.3	11.8
5.9	5.7	6.2	6.1	6.6	6.2	6.0
\$ 72	\$ 91	\$ 79	\$ 78	\$ 84	\$ 73	\$ 67
4.4	8.7	6.2	8.4	4.5	5.2	4.2
\$ 65	\$ 120	\$ 95	\$ 113	\$ 77	\$ 96	\$ 68
\$ 4.10	\$ 4.30	\$ 4.67	\$ 4.76	\$ 4.45	\$ 4.65	\$ 3.40
4.95	5.13	5.30	5.60	4.96	5.30	4.24
5.93	6.52	5.52	6.64	5.48	5.18	5.00
22.5	21.1	21.8	23.2	24.8	22.1	22.0
3.7	2.8	3.0	3.0	3.0	3.6	4.3
\$ 1.02	\$ 1.25	\$.89	\$ 1.97	\$ 1.07	\$.98	\$.67
1.32	1.14	1.55	1.47	1.47	1.59	1.14

Influence of Price Changes on Illinois Farm Incomes

Prices of important farm products.--Prices of most livestock and livestock products were higher at the end of 1940 than at the beginning, but prices of all grains except corn were lower.

Although many commodities were lower in price at the end of the year than at the beginning, all the principal Illinois farm products except horses and hogs averaged higher in 1940 than in 1939. The index of all Illinois farm prices averaged 5 percent higher in 1940 than in 1939. The increases for the various groups were as follows: grains, 25 percent; dairy products, 8 percent; fruits, 6 percent; and chickens and eggs, 3 percent. Meat animals decreased 4 percent because of the lower price of hogs.

A great deal of the variation in earnings between the different types of farming in Illinois is due to the constantly shifting ratios between the prices of various livestock products and between those of livestock products and grains. During 1940, the price of beef cattle was materially higher than that of hogs, other livestock, and livestock products. Likewise, the ratio of the price of cattle to the price of corn was much more favorable to the cattle feeder than to the hog feeder. In 1940, 9.2 bushels of corn equaled in value 100 pounds of live hog compared with an average of 15.4 bushels in 1939. During the fall breeding season, the ratio was very unfavorable to the hog producer.

<u>Farm product</u>	<u>December 15 farm prices</u>		<u>Average yearly farm prices</u>	
	<u>1939</u>	<u>1940</u>	<u>1939</u>	<u>1940</u>
Corn, bu.	\$.47	\$.52	\$.43	\$.56
Wheat, bu.	.88	.79	.67	.81
Oats, bu.	.35	.33	.28	.32
Barley, bu.	.44	.49	.41	.46
Soybeans, bu.	.95	.81	.74	.83
Hay, ton	6.50	7.30	6.05	6.68
Horses, head	85.00	74.00	85.00	77.00
Hogs, cwt.	5.10	5.80	6.56	5.54
Beef cattle, cwt.	8.30	9.80	8.18	8.84
Lambs, cwt.	8.20	8.80	8.18	8.52
Milk cows, head	65.00	68.00	63.00	65.00
Milk, cwt.	1.80	2.00	1.59	1.63
Butterfat, lb.	.26	.34	.23	.27
Chickens, lb.	.11	.13	.13	.13
Eggs, doz.	.19	.27	.16	.17

Variations in supplies.--Prices of farm products at inventory time influence farm earnings, because all feed, grain, livestock, and other farm property must be valued at the beginning of the year and at the end. The influence is greatest where large stocks are on hand at inventory time. Abundant feed supplies and increasing inventories have characterized the years since the drouth year of 1936. In 1940, however, the rather spotted crop situation resulted in somewhat low inventories of feed on some farms and large feed supplies on others. For the state as a whole, the corn reserves on January 1, 1941, were the smallest since 1937, reflecting not only the smaller crop but also the smaller amount of sealing that took place under the loan program. Supplies of other feed and grain crops were larger on January 1, 1941, than in 1940. According to the Division of Agricultural Statistics at Springfield, the supplies of the four major grain crops on Illinois farms on January 1, 1940, and 1941, were as follows:

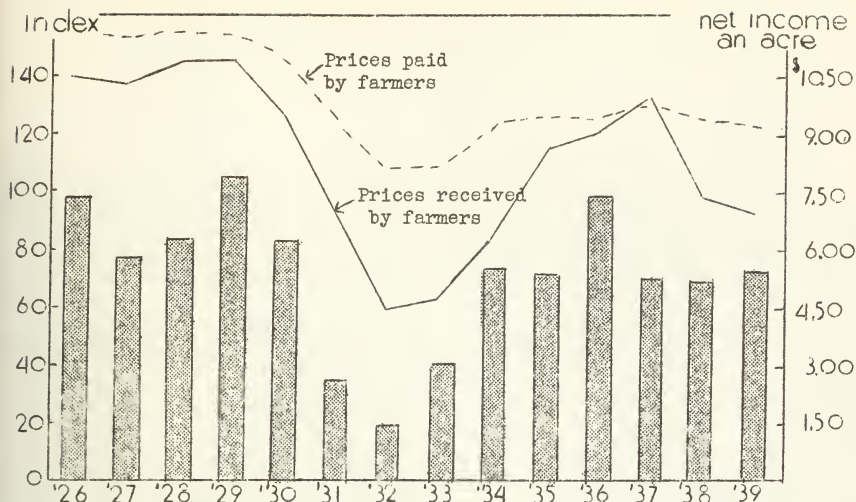


Fig. 2.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1939.

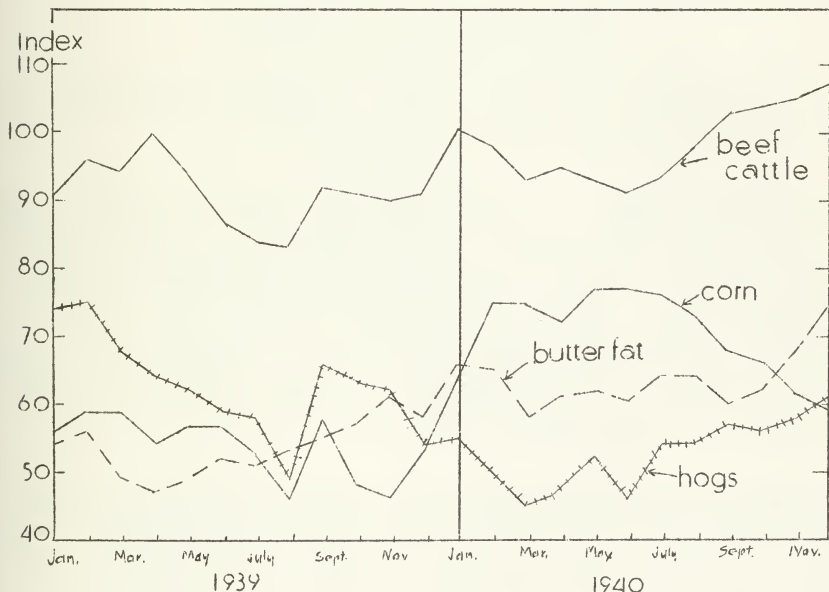


Fig. 3.--Indices of the average monthly farm prices of corn, hogs, butterfat, and beef cattle, 1939 and 1940.
(1924-1929 = 100)

<u>Type of grain</u>	<u>1940</u> (million bushels)	<u>1941</u> (million bushels)
Corn	351	280
Oats	57	98
Wheat	5	8
Soybeans	15	17

On accounting farms, all livestock numbers increased in 1939 over 1938. In 1940, however, only the numbers of milk cows, beef cows, feeder cattle, and fall pigs increased; the numbers of feeder lambs, brood sows, spring pigs, and summer pigs decreased. The following data indicate the percentage increase in livestock numbers on 2,847 accounting farms during the calendar year 1940.

<u>Type of livestock</u>	<u>1940</u> (percent of increase)	<u>Type of livestock</u>	<u>1940</u> (percent of increase)
Milk cows	3	Brood sows	-2
Beef cows	10	Spring pigs	-3
Feeder cattle	12	Summer pigs	-2
Feeder lambs	- 2	Fall pigs	+9

The increase in the numbers of milk cows, beef cows, and feeder cattle was general throughout the United States. This upward swing in numbers may be expected to continue for two or three more years. The decrease in the number of brood sows, spring pigs, and summer pigs is much less than that which took place in the corn belt as a whole. Likewise, fall pigs decreased 12 percent in the United States but increased 9 percent on Illinois accounting farms.

Crop Yields in Illinois, 1940

The year 1940 was the fourth consecutive year of high crop yields in Illinois. The weighted average yield of corn, oats, wheat, and soybeans was 128 percent of the 10-year average, 1929-1938, and was within five points of being as high as in 1939, when the average yield was 133 percent.

The 1940 yields of these four crops, as expressed in percentages of the 1929-1938 averages, follow: corn, 126.8; oats, 154.9; wheat, 129.3; and soybeans, 89.2. In 1940 corn yields were higher than the average of the ten years in each of the counties of the state except Clay, Crawford, Franklin, Hardin, Jefferson, Livingston, Marshall, Richland, and Wayne; oat yields were higher in each of the counties except Union; and wheat yields were higher in each of the counties except Calhoun and Cook. Soybean yields, on the other hand, were below the average in all the principal soybean-producing counties. The counties with the highest average yields of the various crops in 1940 compared with those for the base period follow: Randolph county--corn, 170 percent; Grundy county--Oats, 199 percent; Alexander county and Whiteside county--wheat, 159 percent; and Macoupin county--soybeans, 126 percent.

The counties with the highest crop yields were located, for the most part, in northern and southwestern Illinois where weather conditions were particularly favorable for the small-grain crops as well as for the corn crop. On the other hand, the counties with the lowest crop yields were located in the south-central and southeastern areas of the state. Another group of counties which extended diagonally southeast from Knox county had spotted and moderately low crop yields in relation to the crop yields for the rest of the state. The variation in crop yields between counties and groups of counties as well as between communities, townships, and even individual farms was greater than usual in 1940 because of differences in rainfall and other climatic conditions.

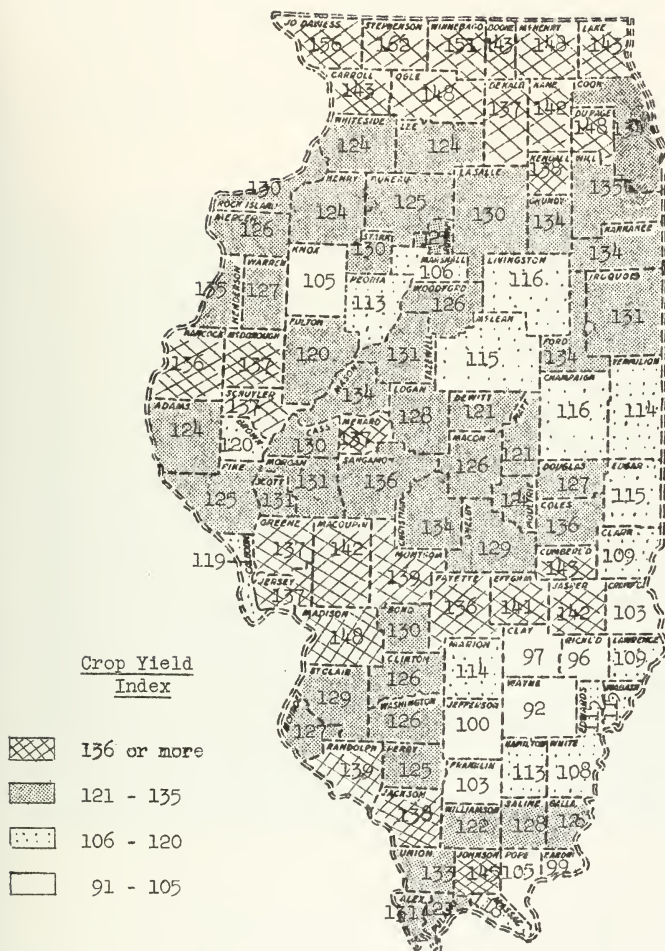


Fig. 4.--Crop yields for 1940 compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1940



FARMING-TYPE AREA FIVE West Central General Farming Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON THREE HUNDRED SIXTEEN FARMS IN FARMING-TYPE AREA 5, 1940

By P. E. Johnston, J. B. Cunningham, and E. M. Hughes^{1/}

Farm earnings of accounting farms in Farming-Type Area 5 were slightly lower in 1940 than in 1939. The average net earnings per acre were \$9.04 in 1940, \$9.77 in 1939, and \$7.93 in 1938. The items considered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor (Table 1).



▨ Farming-Type Area 5
General Farming

Both cash receipts and cash expenses were practically the same for 1940 as for 1939; the lower net farm earnings for 1940 resulted from a smaller average inventory increase. Cash receipts from cattle and dairy sales were larger in 1940 than in 1939, but those from hogs and feed and grain were smaller.

The accounting farms in this report were larger than the average of all the farms in the area, the crop yields were above the average, and the farm operators were more skillful than the average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 8 and Figure 1 are particularly well adapted for such a comparison because they contain measures of earnings and measures

of those management factors which are responsible for major variations in farm earnings.

^{1/} F. J. Reiss supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

W. F. Coolidge, Morgan County
O. O. Mowery, Macoupin County
W. S. Batson, Shelby County
C. S. Love, Christian County
A. E. Snyder, Montgomery County
G. B. Whitman, Adams County

G. H. Reid, Scott County
W. F. Purnell, Greene County
C. T. Kibler, Jersey County
W. B. Bunn, Pike County
E. H. Garlich, Brown County
R. T. Nicholas, Schuyler County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 5, 1937-1940

Item	Your farm	Average of all farms in area			
		1940	1939	1938	1937
Number of farms- - - - -	--	316	315	318	284
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$	\$ 118	\$ 99	\$ 69	\$ 41
Livestock- - - - -		343	298	219	11
Feed and grain - - - - -		301	590	67	524
Machinery and equipment- - - - -		87	110	158	281
Automobile (farm share)- - - - -		21	11	4	--
Total - - - - -	\$	\$ 870	\$1 108	\$ 517	\$ 857
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$	\$ 10	\$ 12	\$ 3	\$ 2
Horses - - - - -		43	53	59	68
Productive livestock: Cattle - - - - -		1 782	1 668	1 144	1 453
Dairy sales- - - - -		522	432	466	473
Hogs - - - - -		1 455	1 482	1 488	1 748
Sheep- - - - -		124	115	90	114
Poultry- - - - -		81	95	85	94
Egg sales- - - - -		116	115	136	130
Total productive livestock - - - - -	()	(4 080)	(3 907)	(3 409)	(4 012)
Feed and grain - - - - -		1 264	1 387	1 167	1 410
Machinery and equipment- - - - -		249	265	256	322
Automobile (farm share)- - - - -		48	46	34	--
Labor off farm - - - - -		43	52	58	90
Miscellaneous- - - - -		13	18	8	6
AAA payments - - - - -		426	454	171	165
Total- - - - -	\$	\$6 176	\$6 194	\$5 165	\$6 075
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$	\$ 368	\$ 320	\$ 261	\$ 214
Horses - - - - -		23	30	38	45
Productive livestock: Cattle - - - - -		978	976	565	624
Hogs - - - - -		149	213	130	136
Sheep- - - - -		56	57	34	41
Poultry- - - - -		20	24	23	18
Total productive livestock - - - - -	()	(1 203)	(1 270)	(752)	(819)
Feed and grain - - - - -		726	688	524	1 121
Machinery and equipment- - - - -		857	872	813	996
Automobile (farm share)- - - - -		167	161	131	--
Hired labor- - - - -		370	379	318	351
Miscellaneous- - - - -		25	33	25	28
Crop expense - - - - -		124	133	118	283
Livestock expense- - - - -		54	61	52	45
Taxes- - - - -		294	289	256	256
Total- - - - -	\$	\$4 211	\$4 236	\$3 288	\$4 158
<u>Summary</u>					
Cash balance - - - - -	\$	\$1 965	\$1 958	\$1 877	\$1 917
Farm products used in household ^a - - - - -		244	256	279	--
Total inventory change - - - - -		870	1 108	517	857
Receipts less expenses - - - - -	\$	\$3 079	\$3 322	\$2 673	\$2 774
Total unpaid labor - - - - -		770	769	755	761
Net earnings per farm- - - - -	\$	\$2 309	\$2,553	\$1 918	\$2,013
Net earnings per acre- - - - -	\$	\$ 9.04	\$ 9.77	\$ 7.93	\$ 8.21

^a/ Not included as income for 1937.

Inventory changes.--The year 1940 was the fifth consecutive year of increasing inventories, ranging from an increase of \$517 in 1938 to \$1,108 in 1939 (Table 1). One of the largest increases in 1940 was for feed and grain, resulting from increases in grain prices and the quantity of oats, wheat, and soybeans on farms at the end of the year. The average amounts of grain on hand in Area 5 at the two inventory periods follow:

<u>Crop</u>	<u>Beginning of year (bushels)</u>	<u>End of year (bushels)</u>
Corn	2 811	2 531
Oats	341	526
Wheat	200	417
Soybeans	125	217

Summary of cash receipts and cash expenses.--Cash receipts exceeded cash expenses in 1940 by \$1,965, or by a slightly larger margin than that for any other year during the past four years. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The uniformity in valuation of unpaid labor was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$50 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$2,309 in 1940 compared with \$2,553 for 1939. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 5; for example, 30 farms earned less than 3 percent on their investment, with an average rate earned of 1.1 percent, but 13 farms earned 15 percent or more, with an average rate earned of 16.8 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$475 for labor and management earnings contrasted with a gain of \$3,313 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

<u>Rate earned on investment (percent)</u>	<u>Number of farms</u>	<u>Average rate earned (percent)</u>	<u>Acres per farm</u>	<u>Capital invested per farm</u>	<u>Gross earnings per farm</u>	<u>Net earnings per farm</u>	<u>Labor and management earnings</u>
Less than 3.0	30	1.1	222	\$24 217	\$3 218	\$ 271	\$ -475
3.0 to 6.9	104	5.3	231	26 668	4 025	1 417	606
7.0 to 10.9	115	8.9	285	32 564	5 846	2 893	1 823
11.0 to 14.9	54	12.6	258	28 043	6 368	3 525	2 676
15.0 or more	13	16.8	255	23 375	6 141	3 937	3 313

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 5, 1940

Item	Your farm	Standards for your farm	Average of all farms
Rate earned on investment- - - - -	_____ %	8.1%	8.1%
Number of farms- - - - -	--	--	316
Acres in farm - - - - -	_____	255	255
Acres tillable - - - - -	_____	204	204
Acres in crops - - - - -	_____	155	155
Gross earnings per acre- - - - -	\$ _____	\$ _____ a/	\$ 18.88
Total expenses per acre- - - - -	_____	_____	9.84
Net earnings per acre- - - - -	\$ _____	\$ _____	\$ 9.04
<u>Investments</u>			
Value of land per acre - - - - -	\$ _____	\$ 70	\$ 70
Value of improved land per acre- - - - -	_____	77	77
Value of improvements per acre - - - - -	_____	14	14
Total investment per acre- - - - -	_____	112	112
<u>Land Use</u>			
Percent of land area tillable- - - - -	_____	_____ a/	80.0
Percent of tillable land in:			
Corn - - - - -	_____	_____	25.3
Oats - - - - -	_____	_____	8.2
Wheat- - - - -	_____	_____	13.4
Soybeans - - - - -	_____	_____	9.9
Other crops- - - - -	_____	_____	7.9
Legume hay and pasture - - - - -	_____	_____	22.9
Nonlegume hay and pasture- - - - -	_____	_____	12.4
<u>Crop Yields</u>			
Corn - - - - -	_____	_____ b/	53.8
Oats - - - - -	_____	_____	48.7
Wheat- - - - -	_____	_____	25.8
Soybeans - - - - -	_____	_____	21.1
<u>Livestock Factors</u>			
Value of feed fed to prod. l.s.- - - - -	\$ _____	\$ 2 269	\$ 2 269
Feed fed per acre to prod. l.s.- - - - -	_____	_____ c/	8.88
Returns per \$100 worth of feed fed - - - - -	_____	_____	151
Poultry returns per hen- - - - -	_____	2.42	2.42
Number of litters farrowed - - - - -	_____	17.3	17.3
Number of pigs weaned per litter - - - - -	_____	6.3	6.3
Returns per litter farrowed- - - - -	\$ _____	\$ 78	\$ 78
Average number of cows milked- - - - -	_____	6.4	6.4
Dairy returns per cow milked - - - - -	\$ _____	\$ _____ c/	\$ 94
<u>Expense Factors</u>			
Machinery cost per crop acre - - - - -	\$ _____	\$ _____ d/	\$ 3.99
Horse and machinery cost per crop acre - - - - -	_____	_____	4.87
Labor cost per crop acre - - - - -	_____	_____	7.06
Total months of labor- - - - -	_____	_____ e/	22.7
Number of work horses- - - - -	_____	_____	3.7
Improvement cost per acre- - - - -	_____	_____	.94
Land tax per acre- - - - -	_____	_____ a/	.99

Source of Standards:

a/ Table 3, value of land.

b/ Fig. 1, value of land.

c/ Table 4, source of income.

d/ Table 6, size of farm and value of feed fed.

e/ Table 5, size of farm.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

Accounting Farms in Farming-Type Area 5, 1940

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment, percent	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings								Factors that affect expenses				
			Percent of tillable land in legume hay and pasture	Crop yields			Feed fed per acre to prod. l.s.	Returns per \$100 feed fed	Poultry returns per hen	Hog returns per litter farrowed	Dairy returns per cow milked	Total expense per acre	Horse and machinery cost per crop acre	Labor cost per crop acre	Improvement cost per acre
				Corn, bu.	Oats, bu.	Wheat, bu.									
18	500								3.75	128					
16	450								3.50	118					
14	400								3.25	108					
12	350								3.00	98					
10	300								2.75	88					
8.1	255								2.42	78					
6	200								2.25	68					
4	150								2.00	58					
2	100								1.75	48					
0	50								1.50	38					
--	0								1.25	28					

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 5, 1940

Item	Value of improved land					
	Less than \$43	\$43 to \$62	\$63 to \$82	\$83 to \$102	\$103 to \$122	More than \$122
Average value of improved land-	\$ 33	\$ 54	\$ 74	\$ 95	\$ 111	\$ 127
Number of farms - - - - -	42	74	84	69	22	25
Acres per farm- - - - -	236	264	266	240	257	267
Percent of land area tillable -	69.0	75.8	78.8	87.4	85.3	90.3
Percent of tillable land in:						
Corn- - - - -	19.9	23.1	25.4	27.3	27.8	29.3
Oats- - - - -	9.1	9.7	8.7	7.4	4.7	6.8
Wheat - - - - -	11.4	12.4	13.1	14.8	16.0	13.5
Soybeans- - - - -	6.3	6.9	8.9	11.3	14.6	17.7
Other crops - - - - -	11.3	7.6	7.4	7.9	6.5	6.6
Legume hay and pasture- - -	25.9	24.4	25.1	19.3	23.0	18.2
Nonlegume hay and pasture - -	16.1	15.9	11.4	12.0	7.4	7.9
Gross earnings per acre - - - -	\$13.48	\$16.63	\$18.34	\$21.52	\$22.35	\$25.85
Total expenses per acre - - - -	8.32	8.85	9.59	11.33	10.56	11.54
Net earnings per acre - - - - -	\$ 5.16	\$ 7.78	\$ 8.75	\$10.19	\$11.79	\$14.31
Land tax per acre - - - - -	\$.68	\$.81	\$.97	\$ 1.18	\$ 1.26	\$ 1.30

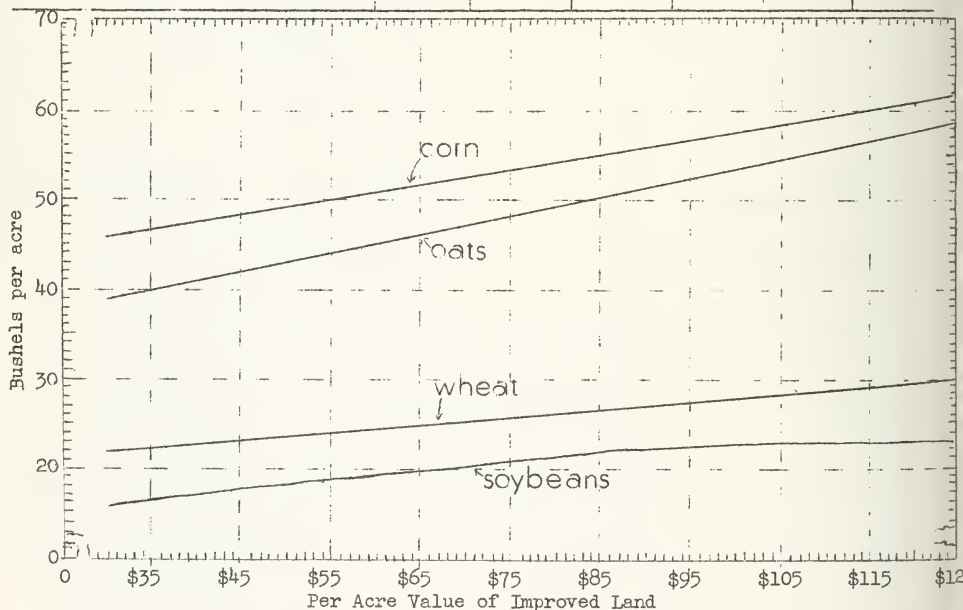


Fig. 1.--Average yields of corn, oats, wheat, and soybeans with varying values of improved land.

Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per \$100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The standards for your farms (Table 2) are taken from Tables 3 to 6 and from Figure 1. They are classified as follows:

Table 3 - Value of improved land.

Gross earnings, total expenses, and net earnings per acre.

All items in the land-use section (Table 2).

Land tax per acre.

Figure 1 - Value of improved land.

Yields for corn, oats, wheat, and soybeans.

Table 4 - Source of income.

Feed fed per acre to productive livestock.

Returns per \$100 worth of feed fed.

Dairy returns per cow.

Table 5 - Size of farm.

Total months of labor.

Number of work horses.

Table 6 - Size of farm and amount of feed fed per acre.

Horse and machinery cost per crop acre.

Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on Page 18, Line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields.--The percent of tillable land in grain crops and "other crops" increased from 58 to 74 as the value per acre for improved land increased from an average of \$33 to \$127 (Table 3). Likewise, the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, wheat, and soybeans increased as the land value increased from \$35 per acre to \$125 per acre (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and net income per acre were high or low for 1940 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 5, 1940

Item	Source of income					
	Grain	Dairy	Hogs	Cattle	General farms	
	40%+	40%+	40%+	40%+	L.S. 60%+	L.S. 60%+
Number of farms - - - - -	65	26	55	33	72	65
Percent of income from prod. l.s.	31.9	86.3	86.8	89.0	50.3	73.0
Percent of income from crops - -	53.4	2.3	--	--	31.2	10.4
<u>Investments</u>						
Total per farm- - - - -	\$32 173	\$20 196	\$26 615	\$46 913	\$24 409	\$25 804
Total per acre- - - - -	120	97	111	125	107	105
Land per acre- - - - -	83	54	67	76	67	61
Improvements per acre - - - -	12	15	16	14	14	15
Machinery per acre- - - - -	9	8	8	7	8	7
<u>Earnings</u>						
Per farm						
Gross earnings- - - - -	\$ 5 285	\$ 4 112	\$ 4 524	\$ 8 430	\$ 4 033	\$ 4 594
Gross expenses- - - - -	2 571	2 397	2 750	4 201	2 121	2 533
Net earnings- - - - -	\$ 2 714	\$ 1 715	\$ 1 774	\$ 4 229	\$ 1 912	\$ 2 061
Per acre						
Gross earnings- - - - -	\$ 19.76	\$ 19.64	\$ 18.93	\$ 22.51	\$ 17.70	\$ 18.71
Gross expenses- - - - -	9.61	11.45	11.51	11.22	9.31	10.32
Net earnings- - - - -	\$ 10.15	\$ 8.19	\$ 7.42	\$ 11.29	\$ 8.39	\$ 8.39
Rate earned on investment - -	8.4%	8.5%	6.7%	9.0%	7.8%	8.0%
Labor and management earnings	\$ 1 649	\$ 1 224	\$ 958	\$ 2 419	\$ 1 209	\$ 1 345
<u>Size and Intensity</u>						
Acres per farm- - - - -	268	209	239	374	228	246
Percent of land area tillable -	87.8	73.5	73.0	81.8	82.0	76.3
Percent tillable land in grain-	66.9	46.2	58.0	58.7	56.3	54.4
Percent in hay and pasture- -	25.0	46.6	36.4	38.2	37.5	39.2
Feed fed per acre to prod. l.s.	\$ 4.47	\$ 8.97	\$ 12.10	\$ 14.59	\$ 6.31	\$ 9.25
Months of labor per 100 crop A.	10.7	23.0	16.2	13.1	14.4	17.9
Total months of labor - - - -	20.8	24.9	21.2	29.1	20.2	24.7
<u>Crop Yields per Acre</u>						
Corn, bu. - - - - -	57.0	46.3	49.0	57.2	54.7	52.1
Wheat, bu.- - - - -	27.5	22.9	25.4	25.8	25.4	25.0
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 155	\$ 196	\$ 141	\$ 141	\$ 154	\$ 157
Hog returns per litter- - - -	76	58	85	82	71	78
Dairy returns per cow - - - -	88	126	63	80	72	99
<u>Expense Factors</u>						
Labor cost per crop acre- - -	5.19	\$ 10.88	\$ 7.88	\$ 6.40	\$ 6.87	\$ 8.61
Horse and machinery cost						
per crop acre - - - - -	4.27	6.00	5.00	5.65	4.34	5.21
Improvement cost per acre - -	.85	1.17	.89	.99	.86	1.04
Land tax per acre - - - - -	1.10	.77	.93	1.03	1.03	.93

Source of income.--The grouping of accounting farms according to source of income for 1940 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that cattle farms showed the largest rate earned on the investment for 1940 and that hog farms showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1940 was due largely to conditions affecting price and production.

When comparing the returns on the various groups of farms per \$100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per \$100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117.

Furthermore, when comparing crop yields for the various types of farming, one should note the following items which indicate that the grain farms were located on the better land: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; (4) high yield of corn and wheat per acre; and (5) high land tax per acre.

Differences in expenses, on the other hand, are highly significant for the five groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 23 months of labor were used, and lowest on the grain farms, where 11 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from \$5.19 on the grain farms to \$10.88 on the dairy farms; the horse and machinery cost per crop acre was highest on the dairy farms, where it averaged \$6.00 and lowest on the grain farms, where it averaged \$4.27; and the improvement cost per acre averaged \$1.17 on the dairy farms and \$.85 on the grain farms.

Size of farm.--When the farm records in Farming-Type Area 5 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 31 largest farms had labor and management earnings which averaged \$2,920 contrasted with \$629 for the 27 smallest farms. The smaller farms had higher investments per acre for land, improvements, machinery, and total investment, indicating a higher capital input. The rate earned on investment was greater for the large farms than for the small ones.

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the much higher gross earnings per acre and by

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 5, 1940

Item	Total acres in farm					
	41 to 120	121 to 200	201 to 280	281 to 360	361 to 440	441 or more
Number of farms - - - - -	27	107	86	41	24	31
Acres per farm- - - - -	106	167	239	316	397	545
<u>Investments</u>						
Total per farm- - - - -	\$13 478	\$19 660	\$26 081	\$38 183	\$37 973	\$60 508
Total per acre- - - - -	128	117	109	121	96	111
Land per acre - - - - -	74	72	66	77	62	69
Improvements per acre - - - - -	19	16	14	13	12	12
Machinery per acre- - - - -	12	9	8	8	6	7
<u>Earnings</u>						
Per farm						
Gross earnings- - - - -	\$ 2 235	\$ 3 402	\$ 4 555	\$ 6 014	\$ 6 110	\$10 138
Gross expenses- - - - -	1 481	1 904	2 418	3 042	2 984	4 707
Net earnings- - - - -	\$ 754	\$ 1 498	\$ 2 137	\$ 2 972	\$ 3 126	\$ 5 431
Per acre						
Gross earnings- - - - -	\$ 21.14	\$ 20.33	\$ 19.07	\$ 19.02	\$ 15.38	\$ 18.61
Gross expenses- - - - -	14.01	11.38	10.12	9.62	7.51	8.64
Net earnings- - - - -	\$ 7.13	\$ 8.95	\$ 8.95	\$ 9.40	\$ 7.87	\$ 9.97
Rate earned on investment - - -	5.6%	7.6%	8.2%	7.8%	8.2%	9.0%
Labor and management earnings -	\$ 629	\$ 1 058	\$ 1 361	\$ 1 601	\$ 1 778	\$ 2 920
<u>Size and Intensity</u>						
Percent of land area tillable -	86.4	83.7	80.1	80.2	75.7	77.5
Percent tillable land in grain-	56.6	58.0	57.4	60.6	60.0	58.1
Percent in hay and pasture- -	38.6	35.2	38.2	32.5	32.8	35.1
Feed fed per acre to prod. l.s.	\$ 9.47	\$ 8.91	\$ 8.88	\$ 8.98	\$ 6.68	\$ 9.95
Percent of income from prod.l.s.	65.2	65.9	68.9	63.2	65.6	72.6
Percent of income from crops- -	14.8	18.0	16.1	21.7	21.9	13.3
Months of labor per 100 crop A.	22.8	17.0	16.0	12.9	11.4	11.8
Total months of labor - - - -	15.8	18.6	22.9	25.6	25.8	36.6
Number of work horses - - - -	2.6	3.1	3.9	4.0	4.4	4.7
<u>Crop Yields per Acre</u>						
Corn, bu. - - - - -	54.9	51.9	53.2	56.9	46.3	58.6
Wheat, bu.- - - - -	22.8	25.4	25.8	26.3	23.8	27.6
<u>Livestock Returns</u>						
Per \$100 feed fed - - - - -	\$ 163	\$ 161	\$ 157	\$ 141	\$ 159	\$ 139
Hog returns per litter- - - -	75	74	81	77	80	83
Dairy returns per cow - - - -	81	93	99	93	91	98
<u>Expense Factors</u>						
Labor cost per crop acre- - -	\$ 11.13	\$ 8.23	\$ 7.69	\$ 6.34	\$ 5.39	\$ 5.61
Horse and machinery cost per crop acre - - - - -	5.59	4.98	4.95	4.75	3.90	5.13
Improvement cost per acre - -	1.30	1.05	1.00	.90	.71	.85
Land tax per acre - - - - -	1.09	1.03	.98	1.05	.87	.94

the larger labor and capital input per acre. The 31 largest farms, however, had the largest value of feed fed per acre to productive livestock, the highest crop yields, and the largest net income per acre.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses.--Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Therefore, the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 5, 1940

Acres per farm	Feed fed per acre			Feed fed per acre		
	Less than \$6.00	\$6.00 to \$9.99	\$10.00 or more	Less than \$6.00	\$6.00 to \$9.99	\$10.00 or more
	(labor cost per crop acre)			(horse and machinery cost per crop acre)		
41 to 120	\$9.40	\$10.30	\$10.80	\$5.00	\$6.60	\$7.20
121 to 200	6.70	8.20	9.50	3.90	5.20	6.00
201 to 280	6.20	7.80	9.20	3.75	4.80	5.80
281 to 360	5.40	7.00	7.80	3.60	4.50	5.10
361 to 440	4.80	6.20	6.80	3.40	4.20	5.00
441 or more	4.90	6.30	6.90	3.60	4.60	5.40

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and source of farm income (Tables 7 and 8).

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 5, 1940

Item	Your farm	Average of all farms	Morgan	'Macoupin'	Shelby
Number of farms - - - - -	--	316	42	39	34
<u>Capital Investments</u>					
Land - - - - -	\$	\$17 809	\$25 006	\$15 093	\$16 366
Farm improvements - - - - -		3 581	3 425	4 208	2 662
Horses - - - - -		374	354	422	284
Productive livestock: Cattle - - - - -		1 722	1 731	1 944	1 090
Hogs - - - - -		612	733	396	253
Sheep - - - - -		115	116	126	121
Poultry - - - - -		85	80	102	108
<u>Total productive livestock - - - - -</u>	()	(2 534)	(2 660)	(2 568)	(1 572)
Feed and grain - - - - -		2 384	2 727	2 189	2 290
Machinery and equipment - - - - -		1 831	2 048	1 996	1 750
Automobile (farm share) - - - - -		168	169	172	160
<u>Total - - - - -</u>	\$	\$28 681	\$36 389	\$26 648	\$25 084
<u>Receipts and Net Increases</u>					
Horses - - - - -	\$	\$ --	\$ --	\$ 5	\$ --
Productive livestock: Cattle - - - - -		1 128	1 330	1 096	497
Dairy sales - - - - -		522	368	871	693
Hogs - - - - -		1 335	1 546	845	623
Sheep - - - - -		92	128	112	103
Poultry - - - - -		65	59	132	59
Egg sales - - - - -		116	111	149	157
<u>Total productive livestock - - - - -</u>	()	(3 258)	(3 542)	(3 205)	(2 132)
Farm products used in household - - - - -		244	240	247	242
Feed and grain - - - - -		839	1 460	1 069	1 514
Labor off farm - - - - -		43	47	67	51
Miscellaneous - - - - -		13	12	38	3
AAA payments - - - - -		426	626	297	380
<u>Total - - - - -</u>	\$	\$ 4 823	\$ 5 927	\$ 4 928	\$ 4 322
<u>Expenses and Net Decreases</u>					
Farm improvements - - - - -	\$	\$ 240	\$ 237	\$ 255	\$ 204
Horses - - - - -		18	7	--	22
Productive livestock - - - - -		--	--	--	--
Feed and grain - - - - -		--	--	--	--
Machinery and equipment - - - - -		521	574	542	414
Automobile (farm share) - - - - -		98	97	98	96
Hired labor - - - - -		370	404	365	235
Miscellaneous - - - - -		25	27	27	23
Crop expense - - - - -		124	133	113	134
Livestock expense - - - - -		54	56	50	36
Taxes - - - - -		294	334	244	275
<u>Total - - - - -</u>	\$	\$ 1 744	\$ 1 869	\$ 1 694	\$ 1 439
Receipts less expenses - - - - -	\$	\$ 3 079	\$ 4 058	\$ 3 234	\$ 2 883
Family labor - - - - -		234	193	396	155
Returns for labor, capital, mgt. - - - - -	\$	\$ 2 845	\$ 3 865	\$ 2 838	\$ 2 728
Operator's labor - - - - -		536	514	550	540
Returns for capital and mgt. - - - - -	\$	\$ 2 309	\$ 3 351	\$ 2 288	\$ 2 188
<u>Rate Earned on Investment - - - - -</u>	%	8.1%	9.2%	8.6%	8.7%
Interest on investment - - - - -	\$	\$ 1 434	\$ 1 820	\$ 1 333	\$ 1 254
<u>Labor and Management Earnings - - - - -</u>		1 411	2 045	1 505	1 474
<u>Nonfarm income - - - - -</u>	\$	\$ 106	\$ 172	\$ 62	\$ 67

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 5, 1940 (Cont'd)

Item	Chris- tian	Mont- gomery	Adams	Scott Greene Jersey	Pike Brown Schuyler
Number of farms - - - - -	33	30	29	62	47
<u>Capital Investments</u>					
Land - - - - -	\$22 654	\$12 955	\$14 755	\$18 567	\$15 255
Farm improvements - - - - -	3 540	2 448	4 090	3 984	3 771
Horses - - - - -	309	395	363	435	373
Productive livestock: Cattle - - -	1 481	1 372	1 529	2 196	1 872
Hogs - - -	520	601	644	623	985
Sheep - - -	75	179	150	101	82
Poultry - -	100	89	70	87	52
Total productive livestock - - -	(2 176)	(2 241)	(2 393)	(3 007)	(2 991)
Feed and grain - - - - -	2 836	1 751	2 047	2 873	1 959
Machinery and equipment - - - -	1 977	1 330	1 795	2 035	1 530
Automobile (farm share) - - - -	207	158	149	177	148
Total - - - - -	\$33 699	\$21 278	\$25 592	\$31 078	\$26 027
<u>Receipts and Net Increases</u>					
Horses - - - - -	\$ --	\$ --	\$ --	\$ --	\$ --
Productive livestock: Cattle - - -	1 108	955	1 112	1 261	1 388
Dairy sales	303	371	294	902	136
Hogs - - -	1 099	1 135	1 384	1 373	2 275
Sheep - - -	65	98	98	65	85
Poultry - -	48	39	70	61	51
Egg sales -	108	122	90	129	65
Total productive livestock - - -	(2 731)	(2 720)	(3 048)	(3 791)	(4 000)
Farm products used in household -	243	260	244	252	227
Feed and grain - - - - -	1 335	677	475	960	--
Labor off farm - - - - -	31	38	32	28	48
Miscellaneous - - - - -	12	5	7	5	21
AAA payments - - - - -	402	349	336	584	302
Total - - - - -	\$ 4 754	\$ 4 049	\$ 4 142	\$ 5 620	\$ 4 598
<u>Expenses and Net Decreases</u>					
Farm improvements - - - - -	\$ 262	\$ 176	\$ 254	\$ 292	\$ 204
Horses - - - - -	28	27	17	30	19
Productive livestock - - - - -	--	--	--	--	--
Feed and grain - - - - -	--	--	--	--	578
Machinery and equipment - - - -	618	453	459	658	364
Automobile (farm share) - - - -	118	91	89	106	81
Hired labor - - - - -	386	244	348	491	361
Miscellaneous - - - - -	26	24	22	27	22
Crop expense - - - - -	127	92	116	151	109
Livestock expense - - - - -	43	33	46	69	73
Taxes - - - - -	324	229	283	351	263
Total - - - - -	\$ 1 932	\$ 1 369	\$ 1 634	\$ 2 175	\$ 2 074
Receipts less expenses - - - - -	\$ 2 822	\$ 2 680	\$ 2 508	\$ 3 445	\$ 2 524
Family labor - - - - -	225	244	235	272	141
Returns for labor, capital, mgt.	\$ 2 597	\$ 2 436	\$ 2 273	\$ 3 173	\$ 2 383
Operator's labor - - - - -	522	556	537	534	541
Returns for capital and mgt. -	\$ 2 075	\$ 1 880	\$ 1 736	\$ 2 639	\$ 1 842
<u>Rate Earned on Investment</u> - - -	6.2%	8.8%	6.8%	8.5%	7.1%
Interest on investment - - - -	\$ 1 685	\$ 1 064	\$ 1 280	\$ 1 554	\$ 1 302
Labor and Management Earnings -	912	1 372	993	1 619	1 081
Nonfarm income - - - - -	\$ 136	\$ 50	\$ 194	\$ 109	\$ 66

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 5, 1940

Item	Average of all farms	Morgan	Macoupin	Shelby
Rate earned on investment- - - - -	8.1%	9.2%	8.6%	8.7%
Acres in farm- - - - -	255	266	265	232
Acres tillable - - - - -	204	223	207	202
Acres in crops - - - - -	155	183	166	155
Gross earnings per acre- - - - -	\$18.88	\$22.26	\$18.57	\$18.60
Total expenses per acre ^a / - - - - -	9.84	9.68	9.95	9.18
Net earnings per acre- - - - -	\$ 9.04	\$12.58	\$ 8.62	\$ 9.42
<u>Investments</u>				
Value of land per acre - - - - -	\$ 70	\$ 94	\$ 57	\$ 70
Value of improved land per acre- - -	77	101	60	74
Value of improvements per acre - - -	14	13	16	11
Total investment per acre- - - - -	112	137	100	108
<u>Land Use</u>				
Percent of land area tillable- - - -	80.0	83.7	78.0	86.9
Percent of tillable land in:				
Corn - - - - -	25.3	28.9	22.5	25.6
Oats - - - - -	8.2	8.9	10.0	5.6
Wheat- - - - -	13.4	18.4	15.1	6.6
Soybeans - - - - -	9.9	9.2	6.0	15.5
Other crops- - - - -	7.9	5.7	9.6	8.4
Legume hay and pasture - - - - -	22.9	19.2	21.4	22.0
Nonlegume hay and pasture- - - - -	12.4	9.7	15.4	16.3
<u>Crop Yields</u>				
Corn, bu.- - - - -	53.8	56.2	54.0	55.4
Oats, bu.- - - - -	48.7	52.8	51.3	45.6
Wheat, bu.- - - - -	25.8	29.1	27.7	20.4
Soybeans, bu.- - - - -	21.1	20.9	20.4	19.5
<u>Livestock Factors</u>				
Value of feed fed to prod. l.s.- - -	\$2 269	\$2 443	\$2 172	\$1 364
Feed fed per acre to prod. l.s.- - -	8.88	9.17	8.18	5.87
Returns per \$100 worth of feed fed -	151	152	156	169
Poultry returns per hen- - - - -	2.42	2.51	2.98	2.14
Number of litters farrowed - - - - -	17.3	19.7	14.1	9.5
Number of pigs weaned per litter - -	6.3	6.5	6.1	6.0
Returns per litter farrowed- - - - -	\$ 78	\$ 81	\$ 73	\$ 77
Average number of cows milked- - -	6.4	5.0	8.7	8.2
Dairy returns per cow milked - - -	\$ 94	\$ 89	\$ 111	\$ 93
<u>Expense Factors</u>				
Machinery cost per crop acre ^b / - - -	\$ 3.99	\$ 3.66	\$ 3.85	\$ 3.28
Horse and machinery cost per crop A.	4.87	4.35	4.64	3.97
Labor cost per crop acre ^a / - - - -	7.06	5.81	7.71	5.80
Total months of labor- - - - -	22.7	22.1	26.4	18.7
Number of work horses- - - - -	3.7	3.5	3.7	2.7
Improvement cost per acre- - - - -	\$.94	\$.89	\$.96	\$.88
Taxes per acre- - - - -	1.15	1.25	.92	1.18

^a/ Includes operator's and family labor.

^b/ Includes farm share of automobile.

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 5, 1940 (Cont'd)

Item	Chris- tian	Mont- gomery	Adams	Scott Greene Jersey	Pike Brown Schuyler
Rate earned on investment- - - - -	6.2%	8.8%	6.8%	8.5%	7.1%
Acres in farm- - - - -	229	221	259	271	271
Acres tillable - - - - -	212	186	193	215	187
Acres in crops - - - - -	171	149	139	155	126
Gross earnings per acre- - - - -	\$20.75	\$18.29	\$15.98	\$20.72	\$16.99
Total expenses per acre ^{a/} - - - - -	11.69	9.80	9.28	10.59	10.18
Net earnings per acre- - - - -	\$ 9.06	\$ 8.49	\$ 6.70	\$ 9.73	\$ 6.81
<u>Investments</u>					
Value of land per acre - - - - -	\$ 99	\$ 59	\$ 57	\$ 68	\$ 56
Value of improved land per acre- - -	100	63	64	77	68
Value of improvements per acre - - -	15	11	16	15	14
Total investment per acre- - - - -	147	96	99	115	96
<u>Land Use</u>					
Percent of land area tillable- - - -	92.6	84.2	74.5	79.3	69.0
Percent of tillable land in:					
Corn - - - - -	23.9	21.9	21.9	27.5	25.3
Oats - - - - -	4.7	7.8	12.6	5.0	13.0
Wheat- - - - -	11.4	15.0	12.0	17.8	6.4
Soybeans - - - - -	27.0	14.4	9.6	3.2	4.0
Other crops- - - - -	6.3	9.8	6.4	9.8	6.3
Legume hay and pasture - - - - -	15.4	17.9	25.3	26.6	31.2
Nonlegume hay and pasture- - - - -	11.3	13.2	12.2	10.1	13.8
<u>Crop Yields</u>					
Corn, bu.- - - - -	59.3	55.8	49.0	54.2	46.6
Oats, bu.- - - - -	56.4	47.9	46.0	44.5	46.5
Wheat, bu. - - - - -	26.6	24.1	27.4	24.7	20.8
Soybeans, bu.- - - - -	22.5	23.5	20.3	19.3	17.2
<u>Livestock Factors</u>					
Value of feed fed to prod. l.s.- - -	\$2 168	\$2 009	\$2 175	\$2 549	\$2 772
Feed fed per acre to prod. l.s.- - -	9.46	9.07	8.39	9.40	10.24
Returns per \$100 worth of feed fed -	134	145	148	156	150
Poultry returns per hen- - - - -	2.03	1.98	2.54	2.77	2.17
Number of litters farrowed - - - - -	14.3	11.5	15.1	19.8	27.8
Number of pigs weaned per litter - -	6.4	6.2	5.9	6.2	6.5
Returns per litter farrowed- - - - -	\$ 80	\$ 70	\$ 68	\$ 75	\$ 86
Average number of cows milked- - - -	4.8	5.8	5.3	8.5	3.6
Dairy returns per cow milked - - - -	\$ 79	\$ 77	\$ 71	\$ 115	\$ 58
<u>Expense Factors</u>					
Machinery cost per crop acre ^{b/} - - -	\$ 4.31	\$ 3.65	\$ 3.94	\$ 4.93	\$ 3.54
Horse and machinery cost per crop A.	5.03	4.59	4.87	6.06	4.71
Labor cost per crop acre ^{a/} - - - - -	6.46	6.75	7.83	8.19	7.92
Total months of labor- - - - -	21.6	21.1	22.0	26.1	21.1
Number of work horses- - - - -	3.2	3.9	3.3	4.5	3.8
Improvement cost per acre- - - - -	\$ 1.14	\$.79	\$.98	\$ 1.08	\$.75
Taxes per acre- - - - -	1.41	1.03	1.09	1.29	.97

^{a/} Includes operator's and family labor.

^{b/} Includes farm share of automobile.

Influence of Price Changes on Illinois Farm Incomes

Prices of important farm products.--Prices of most livestock and livestock products were higher at the end of 1940 than at the beginning, but prices of all grains except corn were lower.

Although many commodities were lower in price at the end of the year than at the beginning, all the principal Illinois farm products except horses and hogs averaged higher in 1940 than in 1939. The index of all Illinois farm prices averaged 5 percent higher in 1940 than in 1939. The increases for the various groups were as follows: grains, 25 percent; dairy products, 8 percent; fruits, 6 percent; and chickens and eggs, 3 percent. Meat animals decreased 4 percent because of the lower price of hogs.

A great deal of the variation in earnings between the different types of farming in Illinois is due to the constantly shifting ratios between the prices of various livestock products and between those of livestock products and grains. During 1940, the price of beef cattle was materially higher than that of hogs, other livestock, and livestock products. Likewise, the ratio of the price of cattle to the price of corn was much more favorable to the cattle feeder than to the hog feeder. In 1940, 9.2 bushels of corn equaled in value 100 pounds of live hog compared with an average of 15.4 bushels in 1939. During the fall breeding season, the ratio was very unfavorable to the hog producer.

<u>Farm product</u>	<u>December 15 farm prices</u>		<u>Average yearly farm prices</u>	
	<u>1939</u>	<u>1940</u>	<u>1939</u>	<u>1940</u>
Corn, bu.	\$.47	\$.52	\$.43	\$.56
Wheat, bu.	.88	.79	.67	.81
Oats, bu.	.35	.33	.28	.32
Barley, bu.	.44	.49	.41	.46
Soybeans, bu.	.95	.81	.74	.83
Hay, ton	6.50	7.30	6.05	6.68
Horses, head	85.00	74.00	85.00	77.00
Hogs, cwt.	5.10	5.80	6.56	5.54
Beef cattle, cwt.	8.30	9.80	8.18	8.84
Lambs, cwt.	8.20	8.80	8.18	8.52
Milk cows, head	65.00	68.00	63.00	65.00
Milk, cwt.	1.80	2.00	1.59	1.68
Butterfat, lb.	.26	.34	.23	.27
Chickens, lb.	.11	.13	.13	.13
Eggs, doz.	.19	.27	.16	.17

Variations in supplies.--Prices of farm products at inventory time influence farm earnings, because all feed, grain, livestock, and other farm property must be valued at the beginning of the year and at the end. The influence is greatest where large stocks are on hand at inventory time. Abundant feed supplies and increasing inventories have characterized the years since the drouth year of 1936. In 1940, however, the rather spotted crop situation resulted in somewhat low inventories of feed on some farms and large feed supplies on others. For the state as a whole, the corn reserves on January 1, 1941, were the smallest since 1937, reflecting not only the smaller crop but also the smaller amount of sealing that took place under the loan program. Supplies of other feed and grain crops were larger on January 1, 1941, than in 1940. According to the Division of Agricultural Statistics at Springfield, the supplies of the four major grain crops on Illinois farms on January 1, 1940, and 1941, were as follows:

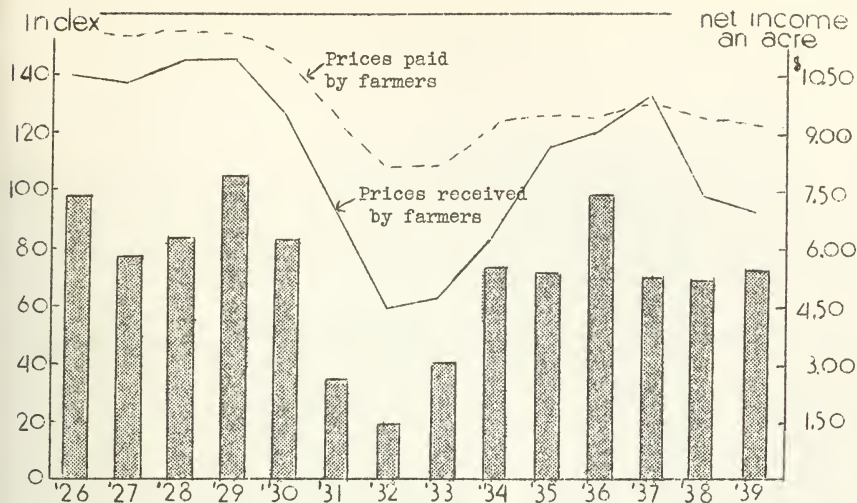


Fig. 2.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1939.

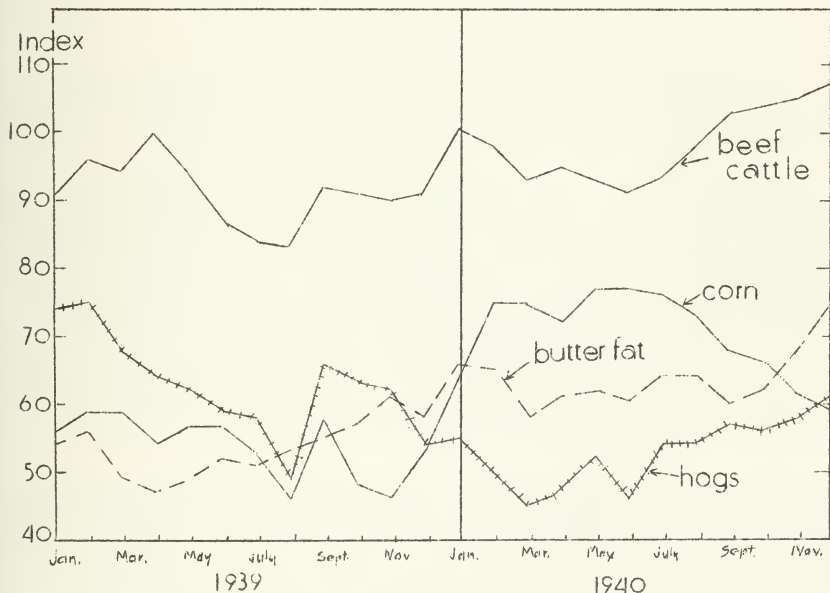


Fig. 3.--Indices of the average monthly farm prices of corn, hogs, butterfat, and beef cattle, 1939 and 1940.
(1924-1929 = 100)

<u>Type of grain</u>	<u>1940</u> (million bushels)	<u>1941</u> (million bushels)
Corn	351	280
Oats	57	98
Wheat	5	8
Soybeans	15	17

On accounting farms, all livestock numbers increased in 1939 over 1938. In 1940, however, only the numbers of milk cows, beef cows, feeder cattle, and fall pigs increased; the numbers of feeder lambs, brood sows, spring pigs, and summer pigs decreased. The following data indicate the percentage increase in livestock numbers on 2,847 accounting farms during the calendar year 1940.

<u>Type of livestock</u>	<u>1940</u> (percent of increase)	<u>Type of livestock</u>	<u>1940</u> (percent of increase)
Milk cows	3	Brood sows	-2
Beef cows	10	Spring pigs	-3
Feeder cattle	12	Summer pigs	-2
Feeder lambs	- 2	Fall pigs	+9

The increase in the numbers of milk cows, beef cows, and feeder cattle was general throughout the United States. This upward swing in numbers may be expected to continue for two or three more years. The decrease in the number of brood sows, spring pigs, and summer pigs is much less than that which took place in the corn belt as a whole. Likewise, fall pigs decreased 12 percent in the United States but increased 9 percent on Illinois accounting farms.

Crop Yields in Illinois, 1940

The year 1940 was the fourth consecutive year of high crop yields in Illinois. The weighted average yield of corn, oats, wheat, and soybeans was 128 percent of the 10-year average, 1929-1938, and was within five points of being as high as in 1939, when the average yield was 133 percent.

The 1940 yields of these four crops, as expressed in percentages of the 1929-1938 averages, follow: corn, 126.8; oats, 154.9; wheat, 129.3; and soybeans, 89.2. In 1940 corn yields were higher than the average of the ten years in each of the counties of the state except Clay, Crawford, Franklin, Hardin, Jefferson, Livingston, Marshall, Richland, and Wayne; oat yields were higher in each of the counties except Union; and wheat yields were higher in each of the counties except Calhoun and Cook. Soybean yields, on the other hand, were below the average in all the principal soybean-producing counties. The counties with the highest average yields of the various crops in 1940 compared with those for the base period follow: Randolph county--corn, 170 percent; Grundy county--Oats, 199 percent; Alexander county and Whiteside county--wheat, 159 percent; and Macoupin county--soybeans, 126 percent.

The counties with the highest crop yields were located, for the most part, in northern and southwestern Illinois where weather conditions were particularly favorable for the small-grain crops as well as for the corn crop. On the other hand, the counties with the lowest crop yields were located in the south-central and southeastern areas of the state. Another group of counties which extended diagonally southeast from Knox county had spotted and moderately low crop yields in relation to the crop yields for the rest of the state. The variation in crop yields between counties and groups of counties as well as between communities, townships, and even individual farms was greater than usual in 1940 because of differences in rainfall and other climatic conditions.

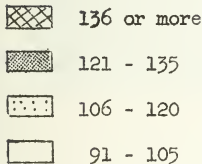


Fig. 4.--Crop yields for 1940 compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1940



FARMING-TYPE AREA SIX St. Louis Dairy and Wheat Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON TWO HUNDRED FIFTY-FIVE FARMS IN FARMING-TYPE AREA 6, 1940

By P. E. Johnston, J. B. Cunningham, and F. M. Hughes^{1/}

Farm earnings of accounting farms in Farming-Type Area 6 were practically the same in 1940 as in 1939. The average net earnings per acre were \$8.15 in 1940, \$7.96 in 1939, and \$5.11 in 1938. The items considered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor (Table 1).



 Farming-Type Area 6
Wheat, Dairy, and Poultry

Larger incomes from the dairy enterprise and larger AAA payments were, to a great extent, responsible for slightly larger cash incomes in 1940 than in 1939. Larger gross incomes were offset by increased expenditures and slightly smaller inventory increases.

The accounting farms in this report were larger than the average of all farms in the area, the crop yields were above the average, and the farm operators were more skillful than the average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 8 and Figure 1 are particularly well adapted for such a comparison because they contain measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

^{1/} F. J. Reiss supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

T. W. May, Madison County
E. C. Secor, Randolph County
B. W. Tillman, St. Clair County
E. S. Amrine, Monroe County
C. S. Cutright, Effingham County

J. B. Turner, Fayette County
Dee Small, Bond County
C. E. Twigg, Clinton County
O. W. Hertz, Washington County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 6, 1937-1940

Item	Your farm	Average of all farms in area			
		1940	1939	1938	1937
Number of farms- - - - -		255	271	289	267
<u>Inventory Changes-</u> - - - -					
Farm improvements- - - - -	\$	\$ 65	\$ 54	\$ 96	\$ 65
Livestock- - - - -		104	142	52	116
Feed and grain - - - - -		217	332	-135	173
Machinery and equipment- - - - -		119	56	161	261
Automobile (farm share)- - - - -		9	13	8	--
Total- - - - -	\$	\$ 514	\$ 597	\$ 182	\$ 615
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$	\$ 5	\$ 8	\$ 9	\$ 1
Horses - - - - -		39	45	56	69
Productive livestock: Cattle - - - - -		603	449	476	385
Dairy sales - - - - -		915	841	874	836
Hogs - - - - -		531	584	601	593
Sheep- - - - -		49	38	51	50
Poultry- - - - -		102	115	117	127
Egg sales- - - - -		236	225	282	260
Total productive livestock - - - - -		(2 436)	(2 252)	(2 401)	(2 251)
Feed and grain - - - - -		853	852	701	1 053
Machinery and equipment- - - - -		203	170	189	221
Automobile (farm share)- - - - -		28	28	30	--
Labor off farm - - - - -		38	50	63	73
Miscellaneous- - - - -		26	15	10	11
AAA payments - - - - -		314	229	94	153
Total- - - - -	\$	\$ 3 947	\$ 3 649	\$ 3 553	\$ 3 832
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$	\$ 251	\$ 219	\$ 258	\$ 210
Horses - - - - -		24	28	47	60
Productive livestock: Cattle - - - - -		261	248	173	137
Hogs - - - - -		40	51	63	39
Sheep- - - - -		7	5	5	21
Poultry- - - - -		27	28	29	28
Total productive livestock - - - - -	()	(335)	(332)	(270)	(225)
Feed and grain - - - - -		399	412	364	532
Machinery and equipment- - - - -		715	570	693	762
Automobile (farm share)- - - - -		116	114	121	--
Hired labor- - - - -		236	229	204	196
Miscellaneous- - - - -		23	23	25	24
Crop expense - - - - -		85	84	95	231
Livestock expense- - - - -		39	42	34	28
Taxes- - - - -		167	163	156	150
Total- - - - -	\$	\$ 2 390	\$ 2 216	\$ 2 267	\$ 2 418
<u>Summary</u>					
Cash balance - - - - -	\$	\$ 1 557	\$ 1 433	\$ 1 286	\$ 1 414
Farm products used in household ^a / - - - - -		250	264	290	--
Total inventory change - - - - -		514	597	182	615
Receipts less expenses - - - - -	\$	\$ 2 321	\$ 2 294	\$ 1 758	\$ 2 029
Total unpaid labor - - - - -		689	688	697	714
Net earnings per farm- - - - -	\$	\$ 1 632	\$ 1 606	\$ 1 061	\$ 1 315
Net earnings per acre- - - - -	\$	\$ 8.15	\$ 7.96	\$ 5.11	\$ 6.17

^a/ Not included as income for 1937.

Inventory changes.--The year 1940 was the fifth consecutive year of increasing inventories, ranging from an increase of \$615 in 1937 to an increase of \$182 in 1938 (Table 1). The largest increase in 1940 was for feed and grain, resulting from increases in grain prices and the quantity of oats, wheat, and soybeans on farms at the end of the year. The average amounts of grain on hand in Area 6 at the two inventory periods follow:

<u>Crop</u>	<u>Beginning of year (bushels)</u>	<u>End of year (bushels)</u>
Corn	1 180	1 061
Oats	271	363
Wheat	285	469
Soybeans	24	43

Summary of cash receipts and cash expenses.--Cash receipts exceeded cash expenses in 1940 by \$1,557, or by a larger margin than that for any other year during the past four years. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The uniformity in valuation of unpaid labor was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$45 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$1,632 in 1940 compared with \$1,606 for 1939. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 6; for example, 26 farms earned less than 3 percent on their investment, with an average rate earned of 1.3 percent, but 22 farms earned 15 percent or more, with an average rate earned of 18 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$206 for labor and management earnings contrasted with a gain of \$2,500 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

<u>Rate earned on investment (percent)</u>	<u>Number of farms</u>	<u>Average rate earned (percent)</u>	<u>Acres per farm</u>	<u>Capital invested per farm</u>	<u>Gross earnings per farm</u>	<u>Net earnings per farm</u>	<u>Labor and management earnings</u>
Less than 3.0	26	1.3	198	\$17 383	\$2 490	\$ 227	\$ -206
3.0 to 6.9	44	5.3	211	17 721	2 880	945	515
7.0 to 10.9	101	9.0	195	17 491	3 614	1 575	1 116
11.0 to 14.9	62	12.6	208	18 725	4 491	2 363	1 876
15.0 or more	22	18.0	182	15 920	4 703	2 872	2 500

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 6, 1940

Item	Your farm	Standards for your farm	Average of all farms
Rate earned on investment- - - - -	_____ %	9.2%	9.2%
Number of farms- - - - -	_____	--	255
Acres in farm- - - - -	_____	200	200
Acres tillable - - - - -	_____	124	124
Acres in crops - - - - -	_____	161	161
Gross earnings per acre- - - - -	\$ _____	\$ _____ a/	\$ 17.70
Total expenses per acre- - - - -	_____	_____	9.55
Net earnings per acre- - - - -	_____	_____	8.15
<u>Investments</u>			
Value of land per acre - - - - -	\$ _____	\$ 48	\$ 48
Value of improved land per acre- - -	_____	_____	52
Value of improvements per acre - - -	_____	14	14
Total investment per acre- - - - -	_____	88	88
<u>Land Use</u>			
Percent of land area tillable- - - -	_____	_____ a/	80.3
Percent of tillable land in:			
Corn - - - - -	_____	_____	17.9
Oats - - - - -	_____	_____	8.7
Wheat- - - - -	_____	_____	22.2
Soybeans - - - - -	_____	_____	2.8
Other crops- - - - -	_____	_____	12.4
Legume hay and pasture - - - - -	_____	_____	25.1
Nonlegume hay and pasture- - - - -	_____	_____	10.9
<u>Crop Yields</u>			
Corn - - - - -	_____	_____ b/	46.9
Oats - - - - -	_____	_____	40.1
Wheat- - - - -	_____	_____	23.8
Soybeans - - - - -	_____	_____	14.2
<u>Livestock Factors</u>			
Value of feed fed to prod. l.s.- - -	\$ _____	\$ 1 457	\$1 457
Feed fed per acre to prod. l.s.- - -	_____	_____ c/	7.28
Returns per \$100 worth of feed fed - -	_____	_____	166
Poultry returns per hen- - - - -	_____	2.35	2.35
Number of litters farrowed - - - - -	_____	7.3	7.3
Number of pigs weaned per litter - - -	_____	6.3	6.3
Returns per litter farrowed- - - - -	_____	\$ 77	\$ 77
Average number of cows milked- - - -	_____	8.8	8.8
Dairy returns per cow milked - - - -	\$ _____	\$ _____ c/	\$ 111
<u>Expense Factors</u>			
Machinery cost per crop acre - - - -	\$ _____	\$ _____ d/	\$ 3.78
Horse and machinery cost per crop acre	_____	_____	5.13
Labor cost per crop acre - - - - -	_____	_____	7.18
Total months of labor- - - - -	_____	_____ e/	22.1
Number of work horses- - - - -	_____	_____	3.8
Improvement cost per acre- - - - -	\$ _____	\$ _____	\$.90
Land tax per acre- - - - -	_____	_____ a/	.72

Source of standards:

a/ Table 3, value of land.

b/ Fig. 1, value of land

c/ Table 4, source of income.

d/ Table 6, size of farm and amount of feed fed.

e/ Table 5, size of farm.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

Accounting Farms in Farming-Type Area 6, 1940

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment, percent	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings							Total expense per acre	Factors that affect expenses				
			Percent of tillable land in legume hay and pasture	Crop yields			Feed fed per acre to prod. l.s.	Returns per \$100 feed fed	Poultry returns per hen		Hog returns per litter farrowed	Dairy returns per cow milked	Horse and machinery cost per acre	Labor cost per acre	Improvement cost per acre
				Corn, bu.	Oats, bu.	Wheat, bu.									
19	300								3.85	127					
17	280								3.55	117					
15	260								3.25	107					
13	240								2.95	97					
11	220								2.65	87					
9.2	200								2.35	77					
7	180								2.05	67					
5	160								1.75	57					
3	140								1.45	47					
1	120								1.15	37					
--	100								.85	27					

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 6, 1940

Item	Value of improved land				
	\$23 to \$37	\$38 to \$52	\$53 to \$67	\$68 to \$82	\$83 to \$125
Average value of improved land-	\$ 31	\$ 45	\$ 60	\$ 73	\$ 97
Number of farms - - - - -	62	75	58	39	16
Acres per farm- - - - -	218	200	213	168	181
Percent of land area tillable -	79.9	78.8	79.2	82.0	90.0
Percent of tillable land in:					
Corn- - - - -	16.0	17.2	20.0	19.1	18.0
Oats- - - - -	9.0	10.1	7.1	8.4	6.2
Wheat - - - - -	15.4	22.0	23.3	28.5	33.5
Soybeans- - - - -	4.4	2.8	2.4	1.6	1.4
Other crops - - - - -	12.6	12.2	12.3	11.9	14.7
Legume hay and pasture- - -	25.0	25.8	27.7	21.6	19.1
Nonlegume hay and pasture - -	17.6	9.9	7.2	8.9	7.1
Gross earnings per acre - - - -	\$13.70	\$17.30	\$19.48	\$21.42	\$24.73
Total expenses per acre - - - -	<u>7.80</u>	<u>9.34</u>	<u>10.18</u>	<u>11.44</u>	<u>12.49</u>
Net earnings per acre - - - - -	\$ 5.90	\$ 7.96	\$ 9.30	\$ 9.98	\$12.24
Land tax per acre - - - - -	\$.58	\$.66	\$.73	\$.90	\$ 1.13

bushels per acre

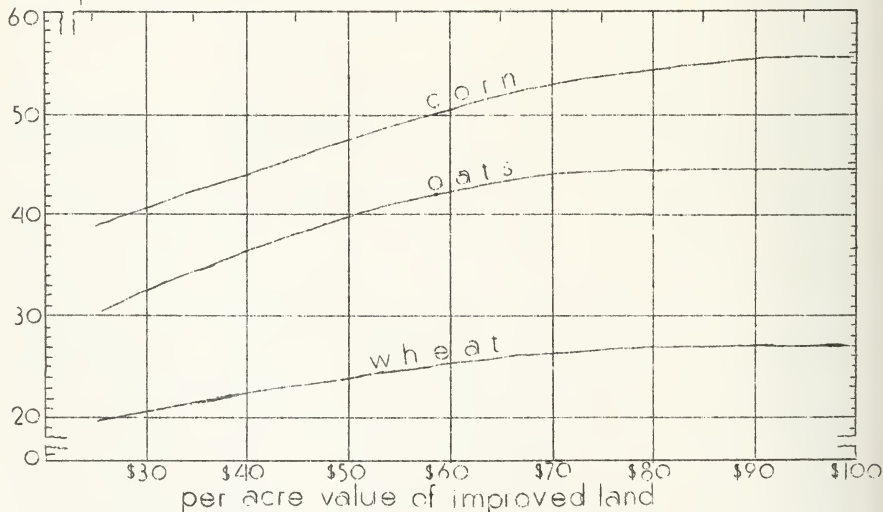


Fig. 1.--Average yields of corn, oats, and wheat with varying values of improved land.

Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per \$100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1. They are classified as follows:

- Table 3 - Value of improved land.
Gross earnings, total expenses, and net earnings per acre.
All items in the land-use section (Table 2).
Land tax per acre.
- Figure 1 - Value of improved land.
Yields for corn, oats, and wheat.
- Table 4 - Source of income.
Feed fed per acre to productive livestock.
Returns per \$100 worth of feed fed.
Dairy returns per cow.
- Table 5 - Size of farm.
Total months of labor.
Number of work horses.
- Table 6 - Size of farm and amount of feed fed per acre.
Horse and machinery cost per crop acre.
Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on Page 18, Line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields.-- The percent of tillable land in grain crops and "other crops" increased from 57.4 to 73.8 as the value per acre for improved land increased from an average of \$31 to \$97 (Table 3). Likewise, the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, and wheat increased rapidly as the land value increased from \$23 per acre to approximately \$70 per acre and then increased very slightly or leveled off for higher valued land (Fig. 1).

By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and net income per acre were high or low for 1940 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 6, 1940

Item	Source of income				
	Grain 40%+	Dairy sales 40%+	Hogs 40%+	General farms	
				L.S. 60%+	L.S. 60%+
Number of farms - - - - -	40	58	11	76	70
Percent of income from prod. l.s.	31.2	76.0	86.6	49.7	78.1
Percent of income from crops - -	52.9	8.6	--	28.7	4.4
<u>Investments</u>					
Total per farm- - - - -	\$18 019	\$17 428	\$23 095	\$16 125	\$18 547
Total per acre- - - - -	89	94	91	81	91
Land per acre - - - - -	56	47	52	44	48
Improvements per acre - - - -	9	17	14	13	15
Machinery per acre- - - - -	8.77	9.89	7.89	7.95	8.56
<u>Earnings</u>					
Per farm					
Gross earnings- - - - -	\$ 3 740	\$ 3 759	\$ 4 343	\$ 3 178	\$ 3 627
Gross expenses- - - - -	1 894	1 905	3 043	1 771	2 003
Net earnings- - - - -	1 846	1 854	1 300	1 407	1 624
Per acre					
Gross earnings- - - - -	\$ 18.45	\$ 20.34	\$ 17.07	\$ 15.86	\$ 17.88
Gross expenses- - - - -	9.34	10.31	11.96	8.84	9.87
Net earnings- - - - -	9.11	10.03	5.11	7.02	8.01
Rate earned on investment - - -	10.24%	10.64%	5.63%	8.73%	8.76%
Labor and management earnings -	\$ 1 397	\$ 1 421	\$ 551	\$ 1 024	\$ 1 130
<u>Size and Intensity</u>					
Acres per farm- - - - -	203	185	254	200	203
Percent of land area tillable -	86.6	78.8	75.7	82.8	76.1
Percent tillable land in grain-	63.0	50.0	52.7	53.1	52.4
Percent in hay and pasture- - -	23.9	43.5	32.2	35.2	40.1
Feed fed per acre to prod. l.s.	\$ 3.84	\$ 8.46	\$ 12.31	\$ 5.60	\$ 9.14
Months of labor per 100 crop A.	15.2	20.6	15.3	16.6	19.8
Total months of labor - - - - -	22.1	22.4	21.0	21.3	23.1
<u>Crop Yields per Acre</u>					
Corn, bu. - - - - -	50.2	46.5	49.2	45.6	45.5
Wheat, bu. - - - - -	25.3	24.2	20.6	22.7	24.0
<u>Livestock Returns</u>					
Per \$100 feed fed - - - - -	\$ 171	\$ 194	\$ 124	\$ 158	\$ 163
Hog returns per litter- - - - -	67	80	83	68	81
Dairy returns per cow - - - - -	84	137	90	93	103
<u>Expense Factors</u>					
Labor cost per crop acre- - - -	\$ 6.25	\$ 8.36	\$ 6.81	\$ 6.48	\$ 7.86
Horse and machinery cost per crop acre- - - - -	4.40	5.64	6.10	4.62	5.61
Improvement cost per acre - - -	.62	1.11	1.06	.83	.96
Land tax per acre - - - - -	.81	.68	.75	.72	.69

Source of income.--The grouping of accounting farms according to source of income for 1940 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that dairy farms showed the largest rate earned on the investment for 1940 and that hog farms showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitability of these enterprises in 1940 was due largely to conditions affecting price and production.

When he compares the returns on the various groups of farms per \$100 worth of feed fed, he should consider the fact that there is a wide variation in the necessary returns per \$100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117.

Furthermore, when he compares crop yields for the various types of farming, he should note the following items which indicate that the grain farms were located on the better land: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; (4) high yield of corn and wheat per acre; and (5) high land tax per acre.

Differences in expenses, on the other hand, are highly significant for the five groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 20.6 months of labor were used, and lowest on the grain farms, where 15.2 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from \$8.36 on the dairy farms to \$6.25 on the grain farms; the horse and machinery cost per crop acre was highest on the hog farms, where it averaged \$6.10, and lowest on the grain farms, where it averaged \$4.40; and the improvement cost per acre averaged \$1.11 on the dairy farms and \$.62 on the grain farms.

Size of farm.--When the farm records in Farming-Type Area 6 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 28 farms ranging in size from 281 to 360 acres had labor and management earnings which averaged \$1,483 contrasted with \$880 for the 42 smallest farms. The smaller farms had higher investments per acre for land, improvements, machinery, and total investment, indicating a higher capital input. The rate earned on investment did not differ significantly for the various size groups.

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the much higher gross and net earnings.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 6, 1940

Item	Total acres in farm				
	41 to 120	121 to 200	201 to 280	281 to 360	361 or more
Number of farms - - - - -	42	107	71	28	7
Acres per farm- - - - -	100	165	239	320	460
<u>Investments</u>					
Total per farm- - - - -	\$11 184	\$15 788	\$19 881	\$25 233	\$33 187
Total per acre- - - - -	112	96	83	79	72
Land per acre - - - - -	57	50	46	45	43
Improvements per acre - - - - -	19	15	13	11	9
Machinery per acre- - - - -	11	10	8	7	5
<u>Earnings</u>					
Per farm					
Gross earnings- - - - -	\$ 2 453	\$ 3 200	\$ 3 999	\$ 4 794	\$ 5 683
Gross expenses- - - - -	1 437	1 696	2 158	2 464	3 303
Net earnings- - - - -	1 016	1 504	1 841	2 330	2 380
Per acre					
Gross earnings- - - - -	\$ 24.48	\$ 19.41	\$ 16.70	\$ 14.96	\$ 12.35
Gross expenses- - - - -	14.34	10.29	9.01	7.69	7.18
Net earnings- - - - -	10.14	9.12	7.69	7.27	5.17
Rate earned on investment - - - - -	9.08%	9.53%	9.26%	9.23%	7.17%
Labor and management earnings - - - - -	\$ 880	\$ 1 154	\$ 1 289	\$ 1 483	\$ 1 132
<u>Size and Intensity</u>					
Percent of land area tillable - - - - -	83.0	81.6	81.3	80.4	64.6
Percent tillable land in grain- - - - -	50.4	56.6	54.9	53.2	39.1
Percent in hay and pasture - - - - -	40.3	33.7	36.2	36.7	42.2
Feed fed per acre to prod. l.s. - - - - -	\$ 9.73	\$ 7.82	\$ 6.81	\$ 6.36	\$ 6.11
Percent of income from prod. l.s. - - - - -	66.3	62.1	62.3	59.8	85.5
Percent of income from crops- - - - -	16.6	19.9	20.0	21.4	.7
Months of labor per 100 crop acre - - - - -	27.4	17.9	16.4	15.1	21.1
Total months of labor - - - - -	18.2	19.6	24.4	28.3	37.1
Number of work horses - - - - -	3.2	3.6	4.1	4.7	3.4
<u>Crop Yields per Acre</u>					
Corn, bu. - - - - -	48.8	49.3	45.5	45.1	42.1
Wheat, bu.- - - - -	27.0	24.6	22.8	22.2	22.4
<u>Livestock Returns</u>					
Per \$100 feed fed - - - - -	\$ 181	\$ 167	\$ 165	\$ 153	\$ 180
Hog returns per litter- - - - -	81	75	70	91	128
Dairy returns per cow - - - - -	123	105	112	115	118
<u>Expense Factors</u>					
Labor cost per crop acre- - - - -	\$ 11.32	\$ 7.15	\$ 6.58	\$ 5.95	\$ 8.63
Horse and machinery cost per crop acre - - - - -	6.41	5.00	5.08	4.72	5.25
Improvement cost per acre - - - - -	1.27	1.09	.79	.68	.66
Land tax per acre - - - - -	.92	.77	.68	.65	.53

per acre, by the larger proportion of total land tillable, by the higher land values, by the larger amount of feed fed per acre to productive livestock, and by the substantially higher crop yields.

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses.--Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Therefore, the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per crop acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK

Accounting Farms in Farming-Type Area 6, 1940

Acres per farm	Feed fed per acre			Feed fed per acre		
	Less than \$6.00	\$6.00 to \$9.99	\$10.00 or more	Less than \$6.00	\$6.00 to \$9.99	\$10.00 or more
	(labor cost per crop acre)			(horse and machinery cost per crop acre)		
41 to 120	\$9.40	\$10.30	\$11.70	\$5.50	\$6.00	\$7.30
121 to 200	6.50	7.20	8.40	4.60	4.90	5.60
201 to 280	6.05	6.70	7.40	4.30	4.60	5.40
281 to 360	5.60	6.20	6.90	3.90	4.20	5.20

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and source of farm income (Tables 7 and 8).

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 6, 1940

Item	Your farm	Average of all farms	Madison	Randolph
Number of farms - - - - -	_____	255	72	35
<u>Capital Investments</u>				
Land - - - - -	\$ _____	\$ 9 614	\$ 9 443	\$ 7 683
Farm improvements - - - - -	_____	2 725	2 802	2 496
Horses - - - - -	_____	423	409	509
Productive livestock: Cattle - - - - -	_____	1 148	1 294	1 087
Hogs - - - - -	_____	270	256	191
Sheep - - - - -	_____	45	27	30
Poultry - - - - -	_____	133	111	87
<u>Total productive livestock</u> - - - - -	(_____)	(1 596)	(1 688)	(1 395)
Feed and grain - - - - -	_____	1 594	1 656	1 301
Machinery and equipment - - - - -	_____	1 588	1 655	1 244
Automobile (farm share) - - - - -	_____	144	147	123
<u>Total</u> - - - - -	\$ _____	\$17 684	\$17 800	\$14 751
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ _____	\$ --	\$ --	\$ --
Productive livestock: Cattle - - - - -	_____	487	487	625
Dairy sales - - - - -	_____	915	1 271	710
Hogs - - - - -	_____	473	439	322
Sheep - - - - -	_____	49	27	36
Poultry - - - - -	_____	84	61	65
Egg sales - - - - -	_____	236	190	185
<u>Total productive livestock</u> - - - - -	(_____)	(2 244)	(2 475)	(1 943)
Farm products used in household - - - - -	_____	250	226	258
Feed and grain - - - - -	_____	671	706	551
Labor off farm - - - - -	_____	38	48	44
Miscellaneous - - - - -	_____	26	34	17
AAA payments - - - - -	_____	314	293	337
<u>Total</u> - - - - -	\$ _____	\$ 3 543	\$ 3 782	\$ 3 150
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ _____	\$ 181	\$ 169	\$ 175
Horses - - - - -	_____	24	29	4
Productive livestock - - - - -	_____	--	--	--
Feed and grain - - - - -	_____	--	--	--
Machinery and equipment - - - - -	_____	388	336	358
Automobile (farm share) - - - - -	_____	79	73	79
Hired labor - - - - -	_____	236	239	191
Miscellaneous - - - - -	_____	23	23	21
Crop expense - - - - -	_____	85	87	84
Livestock expense - - - - -	_____	39	30	24
Taxes - - - - -	_____	167	157	163
<u>Total</u> - - - - -	\$ _____	\$ 1 222	\$ 1 143	\$ 1 099
Receipts less expenses - - - - -	\$ _____	\$ 2 321	\$ 2 639	\$ 2 051
Family labor - - - - -	_____	255	259	264
Returns for labor, capital, mgt. - - - - -	\$ _____	\$ 2 066	\$ 2 380	\$ 1 787
Operator's labor - - - - -	_____	434	444	428
Returns for capital and mgt. - - - - -	\$ _____	\$ 1 632	\$ 1 936	\$ 1 359
<u>Rate Earned on Investment</u> - - - - -	%	9.2%	10.88%	9.21%
Interest on investment - - - - -	\$ _____	\$ 884	\$ 890	\$ 738
Labor and Management Earnings - - - - -	_____	1 182	1 490	1 049
<u>Nonfarm income</u> - - - - -	\$ _____	\$ 92	\$ 121	\$ 47

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 6, 1940 (Cont'd)

Item	St. Clair	Monroe	Bond, Clinton, Washington	Effingham and Fayette
Number - - - - -	31	27	52	38
<u>Capital Investments</u>				
Land - - - - -	\$12 604	\$10 915	\$10 279	\$ 7 443
Farm improvements - - - - -	3 428	2 135	2 841	2 475
Horses - - - - -	553	372	358	392
Productive livestock: Cattle - - - - -	903	582	1 261	1 373
Hogs - - - - -	305	245	418	158
Sheep - - - - -	19	12	71	103
Poultry - - - - -	155	160	150	154
Total productive livestock - - - - -	(1 382)	(999)	(1 900)	(1 788)
Feed and grain - - - - -	1 738	1 581	1 800	1 356
Machinery and equipment - - - - -	1 654	1 587	1 949	1 234
Automobile (farm share) - - - - -	164	130	144	151
Total - - - - -	\$21 523	\$17 719	\$19 271	\$14 839
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ --	\$ --	\$ --	\$ --
Productive livestock: Cattle - - - - -	361	207	482	670
Dairy sales - - - - -	725	474	1 082	672
Hogs - - - - -	545	371	811	227
Sheep - - - - -	11	21	61	135
Poultry - - - - -	110	179	33	131
Egg sales - - - - -	274	385	247	214
Total productive livestock - - - - -	(2 026)	(1 637)	(2 716)	(2 049)
Farm products used in household - - - - -	279	272	248	254
Feed and grain - - - - -	977	1 446	108	682
Labor off farm - - - - -	37	26	32	28
Miscellaneous - - - - -	25	38	19	24
AAA payments - - - - -	360	303	343	263
Total - - - - -	\$ 3 704	\$ 3 722	\$ 3 466	\$ 3 300
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ 190	\$ 144	\$ 216	\$ 180
Horses - - - - -	31	31	22	22
Productive livestock - - - - -	--	--	--	--
Feed and grain - - - - -	--	--	--	--
Machinery and equipment - - - - -	468	442	449	331
Automobile (farm share) - - - - -	89	76	81	76
Hired labor - - - - -	245	283	290	161
Miscellaneous - - - - -	23	26	22	25
Crop expense - - - - -	102	81	82	74
Livestock expense - - - - -	44	34	35	73
Taxes - - - - -	216	176	166	145
Total - - - - -	\$ 1 408	\$ 1 293	\$ 1 363	\$ 1 087
Receipts less expenses - - - - -	\$ 2 296	\$ 2 429	\$ 2 103	\$ 2 213
Family labor - - - - -	293	301	200	253
Returns for labor, capital, mgt. - - - - -	\$ 2 003	\$ 2 128	\$ 1 903	\$ 1 960
Operator's labor - - - - -	439	450	416	429
Returns for capital and mgt. - - - - -	\$ 1 564	\$ 1 678	\$ 1 487	\$ 1 531
Rate Earned on Investment - - - - -	7.27%	9.5%	7.7%	10.3%
Interest on investment - - - - -	\$ 1 076	\$ 886	\$ 963	\$ 742
Labor and Management Earnings - - - - -	927	1 242	940	1 218
Non farm income - - - - -	\$ 83	\$ 58	\$ 98	\$ 104

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 6, 1940

Item	Average of all farms	Madison	Randolph	St. Clair
Rate earned on investment- - - - -	9.2%	10.88%	9.21%	7.27%
Acres in farm- - - - -	200	166	215	209
Acres tillable - - - - -	161	131	177	170
Acres in crops - - - - -	124	109	128	138
Gross earnings per acre- - - - -	\$17.70	\$22.84	\$14.66	\$17.72
Total expenses per acre ² / - - - - -	9.55	11.15	8.33	10.24
Net earnings per acre- - - - -	\$ 8.15	\$11.69	\$ 6.33	\$ 7.48
<u>Investments</u>				
Value of land per acre - - - - -	\$ 48	\$ 57	\$ 36	\$ 60
Value of improved land per acre- - - - -	52	59	39	65
Value of improvements per acre - - - - -	14	17	12	16
Total investment per acre- - - - -	88	107	69	103
<u>Land Use</u>				
Percent of land area tillable- - - - -	80.3	78.9	82.4	81.4
Percent of tillable land in:				
Corn - - - - -	17.9	21.0	11.8	17.8
Oats - - - - -	8.7	7.1	10.2	10.5
Wheat- - - - -	22.2	24.0	25.5	27.0
Soybeans - - - - -	2.8	1.4	1.1	3.2
Other crops- - - - -	12.4	11.9	13.4	15.1
Legume hay and pasture - - - - -	25.1	24.6	31.9	20.5
Nonlegume hay and pasture- - - - -	10.9	10.0	6.1	5.9
<u>Crop Yields</u>				
Corn, bu.- - - - -	46.9	53.3	42.5	46.4
Oats, bu.- - - - -	40.1	42.7	38.4	41.5
Wheat, bu.- - - - -	23.8	26.3	21.6	23.6
Soybeans, bu.- - - - -	14.2	20.6	10.0	14.3
<u>Livestock Factors</u>				
Value of feed fed to prod. l.s.- - - - -	\$1 457	\$1 452	\$1 371	\$1 327
Feed fed per acre to prod. l.s.- - - - -	7.28	8.77	6.38	6.35
Returns per \$100 worth of feed fed - - - - -	166	182	155	168
Poultry returns per hen- - - - -	2.35	2.29	2.42	2.68
Number of litters farrowed - - - - -	7.3	7.8	5.9	7.7
Number of pigs weaned per litter - - - - -	6.3	5.9	6.4	6.5
Returns per litter farrowed- - - - -	\$ 77	\$ 66	\$ 63	\$ 92
Average number of cows milked- - - - -	8.8	10.8	7.8	7.4
Dairy returns per cow milked - - - - -	\$ 111	\$ 122	\$ 101	\$ 107
<u>Expense Factors</u>				
Machinery cost per crop acre ¹ / - - - - -	\$ 3.78	\$ 3.77	\$ 3.42	\$ 4.04
Horse and machinery cost per crop acre	5.13	5.35	4.66	5.61
Labor cost per crop acre ² / - - - - -	7.18	8.49	6.72	6.83
Total months of labor- - - - -	22.1	21.9	21.6	23.7
Number of work horses- - - - -	3.8	3.7	4.2	4.6
Improvement cost per acre- - - - -	\$.90	\$ 1.02	\$.81	\$.91
Taxes per acre - - - - -	.83	.95	.76	1.03

¹/ Includes farm share of automobile.

²/ Includes operator's and family labor.

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 6, 1940 (Cont'd)

Item	Monroe	Bond, Clinton and Washington	Effingham and Fayette
Rate earned on investment- - - - -	9.5%	7.7%	10.3%
Acres in farm- - - - -	201	209	232
Acres tillable - - - - -	160	169	185
Acres in crops - - - - -	122	128	132
Gross earnings per acre- - - - -	\$18.55	\$16.57	\$14.20
Total expenses per acre ^{2/} - - - - -	10.19	9.46	7.61
Net earnings per acre- - - - -	\$ 8.36	\$ 7.11	\$ 6.59
<u>Investments</u>			
Value of land per acre - - - - -	\$ 54	\$ 49	\$ 32
Value of improved land per acre- - - - -	63	53	36
Value of improvements per acre - - - - -	11	14	11
Total investment per acre- - - - -	88	92	64
<u>Land Use</u>			
Percent of land area tillable- - - - -	79.8	80.7	79.6
Percent of tillable land in:			
Corn - - - - -	16.0	17.7	20.2
Oats - - - - -	5.4	9.8	8.3
Wheat- - - - -	34.1	20.8	7.6
Soybeans - - - - -	.9	3.4	6.4
Other crops- - - - -	12.6	12.1	10.7
Legume hay and pasture - - - - -	26.6	24.8	22.8
Nonlegume hay and pasture- - - - -	4.4	11.4	24.0
<u>Crop Yields</u>			
Corn, bu.- - - - -	51.4	41.9	43.7
Oats, bu.- - - - -	44.3	39.3	37.7
Wheat, bu.- - - - -	25.8	21.8	21.0
Soybeans, bu.- - - - -	14.0	13.4	13.6
<u>Livestock Factors</u>			
Value of feed fed to prod. l.s.- - - - -	\$1 141	\$1 930	\$1 227
Feed fed per acre to prod. l.s.- - - - -	5.69	9.23	5.28
Returns per \$100 worth of feed fed - - - - -	160	150	181
Poultry returns per hen- - - - -	3.02	1.82	2.31
Number of litters farrowed - - - - -	6.7	9.4	4.6
Number of pigs weaned per litter - - - - -	5.7	7.2	6.7
Returns per litter farrowed - - - - -	\$ 66	\$ 89	\$ 71
Average number of cows milked- - - - -	5.6	10.0	7.7
Dairy returns per cow milked - - - - -	\$ 94	\$ 114	\$ 97
<u>Expense Factors</u>			
Machinery cost per crop acre ^{1/} - - - - -	\$ 4.26	\$ 4.15	\$ 3.08
Horse and machinery cost per crop acre - - - - -	5.65	5.29	4.15
Labor cost per crop acre ^{2/} - - - - -	8.29	6.84	6.17
Total months of labor- - - - -	25.3	21.5	20.4
Number of work horses- - - - -	3.6	3.4	3.5
Improvement cost per acre- - - - -	\$.72	\$ 1.03	\$.77
Taxes per acre - - - - -	.88	.79	.62

^{1/} Includes farm share of automobile.^{2/} Includes operator's and family labor.

Influence of Price Changes on Illinois Farm Incomes

Prices of important farm products.--Prices of most livestock and livestock products were higher at the end of 1940 than at the beginning, but prices of all grains except corn were lower.

Although many commodities were lower in price at the end of the year than at the beginning, all the principal Illinois farm products except horses and hogs averaged higher in 1940 than in 1939. The index of all Illinois farm prices averaged 5 percent higher in 1940 than in 1939. The increases for the various groups were as follows: grains, 25 percent; dairy products, 8 percent; fruits, 6 percent; and chickens and eggs, 3 percent. Meat animals decreased 4 percent because of the lower price of hogs.

A great deal of the variation in earnings between the different types of farming in Illinois is due to the constantly shifting ratios between the prices of various livestock products and between those of livestock products and grains. During 1940, the price of beef cattle was materially higher than that of hogs, other livestock, and livestock products. Likewise, the ratio of the price of cattle to the price of corn was much more favorable to the cattle feeder than to the hog feeder. In 1940, 9.2 bushels of corn equaled in value 100 pounds of live hog compared with an average of 15.4 bushels in 1939. During the fall breeding season, the ratio was very unfavorable to the hog producer.

<u>Farm product</u>	<u>December 15 farm prices</u>		<u>Average yearly farm prices</u>	
	<u>1939</u>	<u>1940</u>	<u>1939</u>	<u>1940</u>
Corn, bu.	\$.47	\$.52	\$.43	\$.56
Wheat, bu.	.88	.79	.67	.81
Oats, bu.	.35	.33	.28	.32
Barley, bu.	.44	.49	.41	.46
Soybeans, bu.	.95	.81	.74	.83
Hay, ton	6.50	7.30	6.05	6.68
Horses, head	85.00	74.00	85.00	77.00
Hogs, cwt.	5.10	5.80	6.56	5.54
Beef cattle, cwt.	8.30	9.80	8.18	8.84
Lambs, cwt.	8.20	8.80	8.18	8.52
Milk cows, head	65.00	68.00	63.00	65.00
Milk, cwt.	1.80	2.00	1.59	1.68
Butterfat, lb.	.26	.34	.23	.27
Chickens, lb.	.11	.13	.13	.13
Eggs, doz.	.19	.27	.16	.17

Variations in supplies.--Prices of farm products at inventory time influence farm earnings, because all feed, grain, livestock, and other farm property must be valued at the beginning of the year and at the end. The influence is greatest where large stocks are on hand at inventory time. Abundant feed supplies and increasing inventories have characterized the years since the drought year of 1936. In 1940, however, the rather spotted crop situation resulted in somewhat low inventories of feed on some farms and large feed supplies on others. For the state as a whole, the corn reserves on January 1, 1941, were the smallest since 1937, reflecting not only the smaller crop but also the smaller amount of sealing that took place under the loan program. Supplies of other feed and grain crops were larger on January 1, 1941, than in 1940. According to the Division of Agricultural Statistics at Springfield, the supplies of the four major grain crops on Illinois farms on January 1, 1940, and 1941, were as follows:

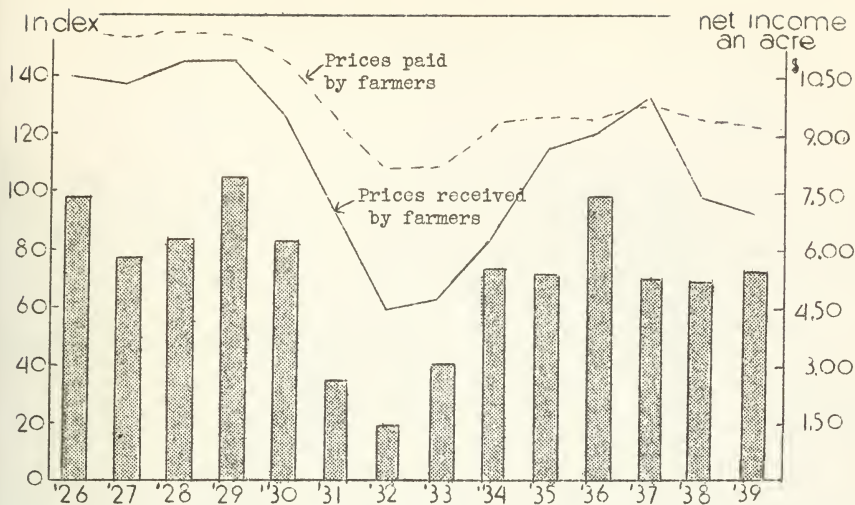


Fig. 2.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1939.

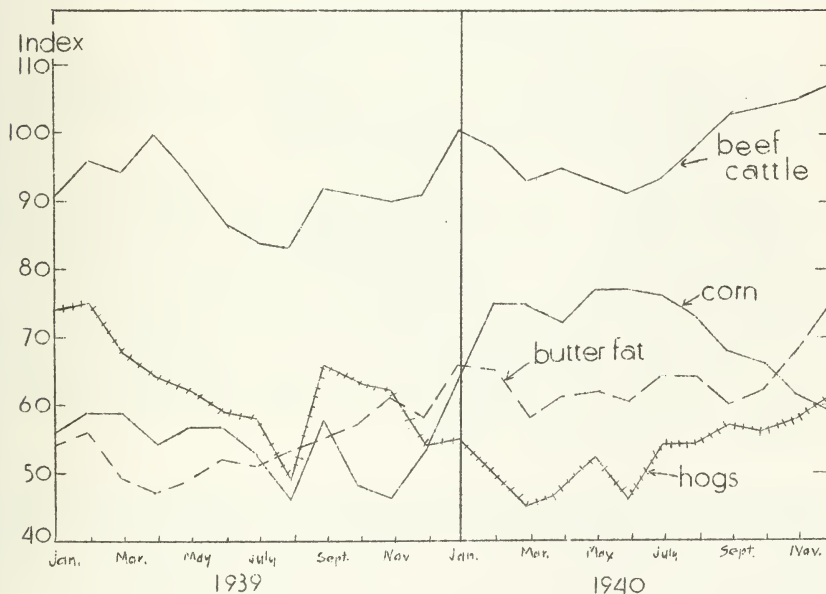


Fig. 3.--Indices of the average monthly farm prices of corn, hogs, butterfat, and beef cattle, 1939 and 1940. (1924-1929 = 100)

<u>Type of grain</u>	<u>1940</u> (million bushels)	<u>1941</u> (million bushels)
Corn	351	280
Oats	57	98
Wheat	5	8
Soybeans	15	17

On accounting farms, all livestock numbers increased in 1939 over 1938. In 1940, however, only the numbers of milk cows, beef cows, feeder cattle, and fall pigs increased; the numbers of feeder lambs, brood sows, spring pigs, and summer pigs decreased. The following data indicate the percentage increase in livestock numbers on 2,847 accounting farms during the calendar year 1940.

<u>Type of livestock</u>	<u>1940</u> (percent of increase)	<u>Type of livestock</u>	<u>1940</u> (percent of increase)
Milk cows	3	Brood sows	-2
Beef cows	10	Spring pigs	-3
Feeder cattle	12	Summer pigs	-2
Feeder lambs	- 2	Fall pigs	+9

The increase in the numbers of milk cows, beef cows, and feeder cattle was general throughout the United States. This upward swing in numbers may be expected to continue for two or three more years. The decrease in the number of brood sows, spring pigs, and summer pigs is much less than that which took place in the corn belt as a whole. Likewise, fall pigs decreased 12 percent in the United States but increased 9 percent on Illinois accounting farms.

Crop Yields in Illinois, 1940

The year 1940 was the fourth consecutive year of high crop yields in Illinois. The weighted average yield of corn, oats, wheat, and soybeans was 128 percent of the 10-year average, 1929-1938, and was within five points of being as high as in 1939, when the average yield was 133 percent.

The 1940 yields of these four crops, as expressed in percentages of the 1929-1938 averages, follow: corn, 126.8; oats, 154.9; wheat, 129.3; and soybeans, 89.2. In 1940 corn yields were higher than the average of the ten years in each of the counties of the state except Clay, Crawford, Franklin, Hardin, Jefferson, Livingston, Marshall, Richland, and Wayne; oat yields were higher in each of the counties except Union; and wheat yields were higher in each of the counties except Calhoun and Cook. Soybean yields, on the other hand, were below the average in all the principal soybean-producing counties. The counties with the highest average yields of the various crops in 1940 compared with those for the base period follow: Randolph county--corn, 170 percent; Grundy county--oats, 199 percent; Alexander county and Whiteside county--wheat, 159 percent; and Macoupin county--soybeans, 126 percent.

The counties with the highest crop yields were located, for the most part, in northern and southwestern Illinois where weather conditions were particularly favorable for the small-grain crops as well as for the corn crop. On the other hand, the counties with the lowest crop yields were located in the south-central and southeastern areas of the state. Another group of counties which extended diagonally southeast from Knox county had spotted and moderately low crop yields in relation to the crop yields for the rest of the state. The variation in crop yields between counties and groups of counties as well as between communities, townships, and even individual farms was greater than usual in 1940 because of differences in rainfall and other climatic conditions.

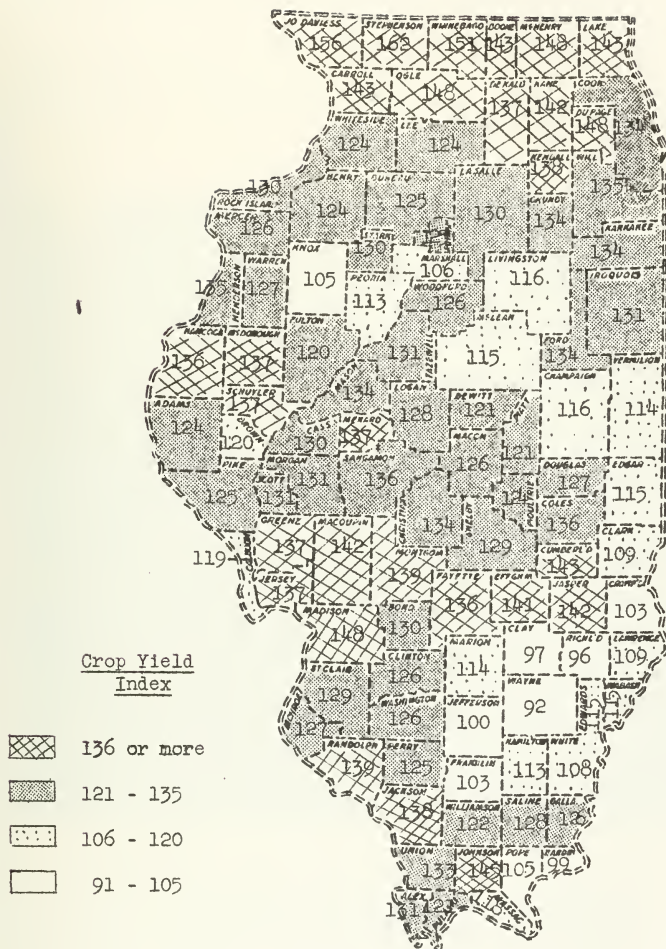


Fig. 4.--Crop yields for 1940 compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1940



FARMING-TYPE AREA SEVEN South Central Mixed Farming Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON NINETY-EIGHT FARMS IN FARMING-TYPE AREA 7, 1940

By P. E. Johnston, J. B. Cunningham, and L. W. Schruben^{1/}

Farm earnings of accounting farms in Farming-Type Area 7 were practically the same in 1940 as in 1939. The average net earnings per acre were \$4.35 in 1940, \$4.30 in 1939, and \$3.71 in 1938. The items considered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor (Table 1).



⊙ Farming-Type Area 7

Mixed Farming

Larger incomes from feed and grain and larger AAA payments were, to a great extent, responsible for slightly larger cash incomes in 1940 than in 1939. Larger gross incomes were offset by increased expenditures and slightly smaller inventory increases.

The accounting farms in this report were larger than the average of all the farms in the area, the crop yields were above the average, and the farm operators were more skillful than the average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 8 and Figure 1 are particularly well adapted for such a comparison because they contain measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

^{1/} F. J. Reiss supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

W. L. Sidwell, Jefferson County
R. L. Ash, Clark County
R. E. Apple, Jasper County
Halsey L. Miles, Crawford County

L. B. Broom, Williamson County
C. L. Beatty, Richland County
F. J. Blackburn, Marion County
R. K. Wise, Clay County
J. A. Embser, Franklin-Hamilton Counties

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 7, 1937-1940

Item	Your farm	Average of all farms in area			
		1940	1939	1938	1937
Number of farms- - - - -		98	103	96	62
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$	\$ 151	\$ 56	\$ 75	\$ 58
Livestock- - - - -		9	121	42	136
Feed and grain - - - - -		137	138	-21	95
Machinery and equipment- - - - -		72	72	137	172
Automobile (farm share)- - - - -		15	20	-4	--
Total - - - - -	\$	\$ 384	\$ 407	\$ 229	\$ 461
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$	\$ 14	\$ 2	\$ 3	\$ 7
Horses - - - - -		75	65	73	51
Productive livestock: Cattle - - - - -		594	632	687	537
Dairy sales- - - - -		290	316	385	292
Hogs - - - - -		692	694	766	834
Sheep - - - - -		110	57	81	66
Poultry- - - - -		104	101	123	132
Egg sales- - - - -		230	207	244	284
Total productive livestock - - - - -	()	(2 020)	(2 007)	(2 186)	(2 145)
Feed and grain - - - - -		530	495	395	532
Machinery and equipment- - - - -		127	109	84	162
Automobile (farm share)- - - - -		41	27	15	--
Labor off farm - - - - -		45	39	32	78
Miscellaneous- - - - -		14	17	7	10
AAA payments - - - - -		226	179	134	122
Total- - - - -	\$	\$3 092	\$2 940	\$2 929	\$3 107
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$	\$ 311	\$ 215	\$ 196	\$ 186
Horses - - - - -		33	49	30	38
Productive livestock: Cattle - - - - -		178	255	294	234
Hogs - - - - -		39	58	60	58
Sheep - - - - -		14	16	18	19
Poultry- - - - -		24	24	27	26
Total productive livestock - - - - -	()	(255)	(353)	(399)	(337)
Feed and grain - - - - -		352	335	348	548
Machinery and equipment- - - - -		498	474	481	569
Automobile (farm share)- - - - -		125	123	81	--
Hired labor- - - - -		161	160	172	172
Miscellaneous- - - - -		16	18	20	18
Crop expense - - - - -		102	84	93	190
Livestock expense- - - - -		24	28	28	19
Taxes- - - - -		148	132	144	121
Total- - - - -	\$	\$2 025	\$1 971	\$1 992	\$2 198
<u>Summary</u>					
Cash balance - - - - -	\$	\$1 067	\$ 969	\$ 937	\$ 909
Farm products used in household ^{a/} - - - - -		244	254	268	--
Total inventory change - - - - -		384	407	229	461
Receipts less expenses - - - - -	\$	\$1 695	\$1 630	\$1 434	\$1 370
Total unpaid labor - - - - -		618	654	632	640
Net earnings per farm- - - - -		\$1 077	\$ 976	\$ 802	\$ 730
Net earnings per acre- - - - -	\$	\$ 4.35	\$ 4.30	\$ 3.71	\$ 3.48

^{a/} Not included as income for 1937.

Inventory changes.--The year 1940 was the 5th consecutive year of increasing inventories, ranging from an increase of \$229 in 1938 to \$461 in 1937 (Table 1). One of the largest increases in 1940 was for feed and grain, resulting from increases in grain prices and the quantity of oats, wheat, and soybeans on farms at the end of the year. The average amounts of grain on hand in Area 7 at the two inventory periods follow:

<u>Crop</u>	<u>Beginning of year (bushels)</u>	<u>End of year (bushels)</u>
Corn	1 231	1 103
Oats	175	228
Wheat	66	90
Soybeans	29	33

Summary of cash receipts and cash expenses.--Cash receipts exceeded cash expenses in 1940 by \$1,067, or by a larger margin than that for any other year during the past four years. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The uniformity in valuation of unpaid labor was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$40 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$1,077 in 1940 compared with \$976 for 1939. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 7; for example, 13 farms earned less than 1 percent on their investment, with an average rate earned of -.5 percent, but 12 farms earned 13 percent or more, with an average rate earned of 17.4 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a loss of \$76 for labor and management earnings contrasted with a gain of \$2,050 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

<u>Rate earned on investment (percent)</u>	<u>Number of farms</u>	<u>Average rate earned (percent)</u>	<u>Acres per farm</u>	<u>Capital invested per farm</u>	<u>Gross earnings per farm</u>	<u>Net earnings per farm</u>	<u>Labor and management earnings</u>
Less than 1.0	13	-0.5	148	\$ 7 407	\$1 208	\$ -34	\$ -76
1.0 to 4.9	26	3.1	214	11 791	2 033	362	172
5.0 to 8.9	30	7.4	331	18 290	3 422	1 345	843
9.0 to 12.9	17	10.9	227	15 814	3 550	1 725	1 341
13.0 or more	12	17.4	250	12 921	3 840	2 245	2 050

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 7, 1940

Item	Your farm	Standards for your farm	Average of all farms
Rate earned on investment- - - - -	_____ %	7.7%	7.7%
Number of farms- - - - -	--	--	98
Acres in farm- - - - -	_____	248	248
Acres tillable - - - - -	_____	200	200
Acres in crops - - - - -	_____	133	133
Gross earnings per acre- - - - -	\$ _____	\$ _____ ^{a/}	\$10.82
Total expenses per acre- - - - -	_____	_____	6.47
Net earnings per acre- - - - -	\$ _____	\$ _____	\$ 4.35
<u>Investments</u>			
Value of land per acre - - - - -	\$ _____	\$ 30	\$ 30
Value of improved land per acre- - - - -	_____	_____ ^{a/}	32
Value of improvements per acre - - - - -	_____	9	9
Total investment per acre- - - - -	_____	57	57
<u>Land Use</u>			
Percent of land area tillable- - - - -	_____	_____ ^{a/}	80.8
Percent of tillable land in:			
Corn - - - - -	_____	_____	19.6
Oats - - - - -	_____	_____	5.2
Wheat- - - - -	_____	_____	9.0
Soybeans - - - - -	_____	_____	2.1
Other crops- - - - -	_____	_____	14.1
Legume hay and pasture - - - - -	_____	_____	24.6
Nonlegume hay and pasture- - - - -	_____	_____	25.4
<u>Crop Yields</u>			
Corn - - - - -	_____	_____ ^{b/}	35.6
Oats - - - - -	_____	_____	33.2
Wheat- - - - -	_____	_____	19.7
Soybeans - - - - -	_____	_____	10.7
<u>Livestock Factors</u>			
Value of feed fed to prod. l.s.- - - - -	\$ _____	\$1 302	\$1 302
Feed fed per acre to prod. l.s.- - - - -	_____	_____ ^{c/}	5.25
Returns per \$100 worth of feed fed - - - - -	_____	_____	154
Poultry returns per hen - - - - -	_____	2.49	2.49
Number of litters farrowed - - - - -	_____	9.6	9.6
Number of pigs weaned per litter - - - - -	_____	6.8	6.8
Returns per litter farrowed- - - - -	\$ _____	\$ 79	\$ 79
Average number of cows milked- - - - -	_____	5.3	5.3
Dairy returns per cow milked - - - - -	\$ _____	\$ _____ ^{c/}	\$ 69
<u>Expense Factors</u>			
Machinery cost per crop acre - - - - -	\$ _____	\$ _____ ^{d/}	\$ 2.77
Horse and machinery cost per crop acre - - - - -	_____	_____	3.69
Labor cost per crop acre - - - - -	_____	_____	5.69
Total months of labor- - - - -	_____	_____ ^{e/}	18.8
Number of work horses- - - - -	_____	_____	3.2
Improvement cost per acre- - - - -	\$ _____	\$ _____ ^{e/}	\$.59
Land tax per acre- - - - -	_____	_____	.52

Source of Standards:

a/ Table 3, value of land.

b/ Fig. 1, value of land.

c/ Table 4, source of income.

d/ Table 6, size of farm and value of feed fed.

e/ Table 5, size of farm.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

Accounting Farms in Farming-Type Area 7, 1940

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment, percent	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings								Factors that affect expenses				
			Percent of tillable land in legume hay and pasture	Crop yields			Feed fed per acre to prod. l.s.	Returns per \$100 Feed fed	Poultry returns per hen	Hog returns per litter farrowed	Dairy returns per cow milked	Total expense per acre	Horse and machinery cost per crop acre	Labor cost per crop acre	Improvement cost per acre
				Corn, bu.	Oats, bu.	Wheat, bu.									
18	500								4.00	130					
16	450								3.70	120					
14	400								3.40	110					
12	350								3.10	100					
10	300								2.80	90					
7.7	248								2.49	79					
6	200								2.20	70					
4	150								1.90	60					
2	100								1.60	50					
0	50								1.30	40					
--	0								1.00	30					

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 7, 1940

Item	Value of improved land			
	\$10 to \$22	\$23 to \$32	\$33 to \$42	\$43 to \$80
Average value of improved land - -	\$ 19	\$ 27	\$ 37	\$ 57
Number of farms - - - - -	22	35	27	14
Acres per farm- - - - -	246	275	206	264
Percent of land area tillable - -	81.4	81.0	81.7	77.9
Percent of tillable land in:				
Corn- - - - -	16.9	17.0	20.8	28.9
Oats- - - - -	6.2	4.9	7.3	2.5
Wheat - - - - -	4.8	7.7	8.6	18.4
Soybeans- - - - -	2.7	1.7	1.9	2.7
Other crops - - - - -	14.8	16.2	10.2	13.9
Legume hay and pasture- - - -	22.5	26.4	23.6	21.8
Nonlegume hay and pasture - - -	32.1	26.1	27.6	11.8
Gross earnings per acre - - - -	\$7.88	\$10.17	\$11.96	\$15.08
Total expenses per acre - - - -	<u>5.45</u>	<u>6.06</u>	<u>7.08</u>	<u>8.11</u>
Net earnings per acre - - - -	\$2.43	\$4.11	\$4.88	\$6.97
Land tax per acre - - - - -	\$.47	\$.42	\$.57	\$.76

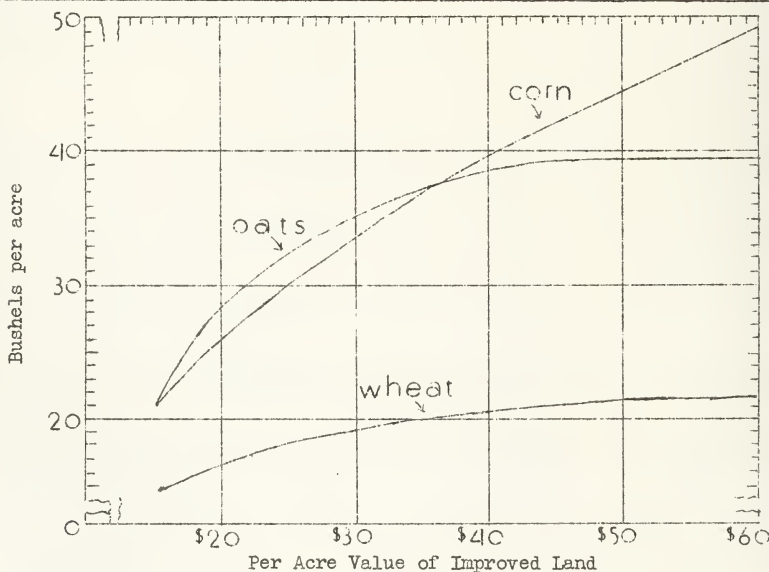


Fig. 1.--Average Yields of corn, oats, and wheat with varying values of improved land.

Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per \$100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1. They are classified as follows:

- Table 3 - Value of improved land.
Gross earnings, total expenses, and net earnings per acre.
All items in the land-use section (Table 2).
Land tax per acre.
- Figure 1 - Value of improved land.
Yields for corn, oats, and wheat.
- Table 4 - Source of income.
Feed fed per acre to productive livestock.
Returns per \$100 worth of feed fed.
Dairy returns per cow.
- Table 5 - Size of farm.
Total months of labor.
Number of work horses.
Improvement cost per acre.
- Table 6 - Size of farm and amount of feed fed per acre.
Horse and machinery cost per crop acre.
Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on Page 18, Line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields.--The percent of tillable land in grain crops and "other crops" increased from 45 to 66 as the value per acre for improved land increased from an average of \$19 to \$57 (Table 3). Likewise, the net earnings per acre and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, and wheat increased as the land value increased from \$20 per acre to \$60 per acre (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and net income per acre were high or low for 1940 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 7, 1940

Item	Source of Income			
	Grain 40%+	Hogs 40%+	General farms	
			L.S. 60%-	L.S. 60%+
Number of farms - - - - -	10	10	25	53
Percent of income from prod. l.s.	34.4	85.6	47.1	82.3
Percent of income from crops - -	46.6	--	25.8	.7
<u>Investments</u>				
Total per farm- - - - -	\$14 820	\$17 332	\$13 288	\$13 618
Total per acre- - - - -	57	72	45	60
Land per acre - - - - -	34	41	25	30
Improvements per acre - - - -	7	11	6	10
Machinery per acre- - - - -	5.22	6.27	4.43	5.71
<u>Earnings</u>				
Per farm				
Gross earnings- - - - -	\$ 3 293	\$ 2 998	\$ 2 657	\$ 2 562
Gross expenses- - - - -	1 770	2 088	1 484	1 582
Net earnings- - - - -	\$ 1 523	\$ 910	\$ 1 173	\$ 980
Per acre				
Gross earnings- - - - -	\$ 12.69	\$ 12.43	\$ 9.08	\$ 11.35
Gross expenses- - - - -	6.82	8.66	5.07	7.01
Net earnings- - - - -	\$ 5.87	\$ 3.77	\$ 4.01	\$ 4.34
Rate earned on investment - - -	10.3%	5.3%	8.8%	7.2%
Labor and management earnings -	\$ 1 250	\$ 475	\$ 911	\$ 682
<u>Size and Intensity</u>				
Acres per farm- - - - -	260	241	293	226
Percent of land area tillable -	84.3	81.0	82.8	78.7
Percent tillable land in grain-	54.2	45.0	33.7	35.3
Percent in hay and pasture- - -	32.6	41.6	49.2	56.4
Feed fed per acre to prod. l.s.	\$ 3.33	\$ 8.40	\$ 3.23	\$ 6.28
Months of labor per 100 crop A.	10.8	15.0	10.6	17.7
Total months of labor - - - - -	19.8	19.8	18.1	18.7
<u>Crop Yields per Acre</u>				
Corn, bu. - - - - -	37.9	38.5	29.6	37.8
Wheat, bu.- - - - -	22.3	15.3	18.3	20.7
<u>Livestock Returns</u>				
Per \$100 feed fed - - - - -	\$ 154	\$ 135	\$ 153	\$ 160
Hog returns per litter- - - - -	83	79	71	79
Dairy returns per cow - - - - -	62	68	60	72
<u>Expense Factors</u>				
Labor cost per crop acre- - - -	\$ 4.26	\$ 6.04	\$ 3.90	\$ 7.08
Horse and machinery cost				
per crop acre - - - - -	3.24	4.02	2.55	4.62
Improvement cost per acre - - -	.50	.79	.38	.69
Land tax per acre - - - - -	.56	.63	.46	.54

Source of income.--The grouping of accounting farms according to source of income for 1940 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that grain farms showed the largest rate earned on the investment for 1940 and that hog farms showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitableness of these enterprises in 1940 was due in part to conditions affecting price and production.

When comparing the returns on the various groups of farms per \$100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per \$100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117.

Furthermore, when comparing crop yields for the various types of farming, one should note the following items which indicate that the grain and hog farms were located on the better land: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; (4) high yield of corn and wheat per acre; and (5) high land tax per acre.

Differences in expenses, on the other hand, are highly significant for the three groups of farms. Labor input per 100 crop acres was highest on the general farms with the most livestock, where 17.7 months of labor were used, and lowest on the general farms with the least livestock, where 10.6 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from \$3.90 on the general farms with the least livestock to \$7.08 on the general farms with the most livestock; the horse and machinery cost per crop acre for these two groups was \$255 and \$4.62 respectively. The improvement cost per acre averaged \$3.38 on the general farms with the least livestock and \$.79 on the hog farms.

Size of farm.--When the farm records in Farming-Type Area 7 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 25 largest farms had labor and management earnings which averaged \$1,151 contrasted with \$448 for the 36 smallest farms. The smaller farms had higher investments per acre for improvements, machinery, and total investment, indicating a higher capital input. The rate earned on investment was greater for the large farms than for the small ones (Table 5).

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the higher gross earnings per acre, by the larger proportion of land area tillable, and by the larger amount of feed fed per acre to productive livestock.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 7, 1940

Item	Total acres in farm		
	Less than 181	181 to 300	300 or more
Number of farms - - - - -	36	37	25
Acres per farm- - - - -	124	238	440
<u>Investments</u>			
Total per farm- - - - -	\$7 489	\$14 560	\$22 686
Total per acre- - - - -	60	61	52
Land per acre - - - - -	29	33	28
Improvements per acre - - - - -	11	9	8
Machinery per acre- - - - -	5.59	5.80	4.84
<u>Earnings</u>			
Per farm			
Gross earnings- - - - -	\$1 484	\$2 809	\$4 217
Gross expenses- - - - -	1 028	1 653	2 361
Net earnings- - - - -	\$ 456	\$1 156	\$1 856
Per acre- - - - -			
Gross earnings- - - - -	\$11.92	\$11.81	\$ 9.59
Gross expenses- - - - -	8.26	6.95	5.37
Net earnings- - - - -	\$ 3.66	\$ 4.86	\$ 4.22
Rate earned on investment - - -	6.1%	7.9%	8.2%
Labor and management earnings -	\$ 448	\$ 845	\$1 151
<u>Size and Intensity</u>			
Percent of land area tillable -	84.0	81.3	79.0
Percent tillable land in grain- -	36.9	40.2	36.5
Percent in hay and pasture- - -	54.8	48.7	49.1
Feed fed per acre to prod. l.s. -	\$ 6.06	\$ 6.07	\$ 4.28
Percent of income from prod. l.s. -	77.2	70.4	62.1
Percent of income from crops- -	--	9.1	20.5
Months of labor per 100 crop A. -	21.0	14.5	11.0
Total months of labor - - - -	13.8	19.2	25.2
Number of work horses - - - -	2.6	3.4	3.5
<u>Crop Yields per Acre</u>			
Corn, bu. - - - - -	31.2	38.3	34.9
Wheat, bu.- - - - -	20.8	18.1	20.9
<u>Livestock Returns</u>			
Per \$100 feed fed - - - - -	\$ 171	\$ 148	\$ 152
Hog returns per litter- - - -	75	76	83
Dairy returns per cow - - - -	71	59	82
<u>Expense Factors</u>			
Labor cost per crop acre- - -	\$ 8.22	\$ 5.56	\$ 4.40
Horse and machinery cost per crop acre - - - - -	4.55	3.79	3.23
Improvement cost per acre - - -	.73	.63	.50
Land tax per acre - - - - -	.57	.55	.49

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses.--Labor and horse and machinery expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Therefore, the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per crop acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 7, 1940

Acres per farm	Feed fed per acre				Feed fed per acre		
	Less than \$4.00	\$4.00 to \$6.99	\$7.00 or more		Less than \$4.00	\$4.00 to \$6.99	\$7.00 or more
	(labor cost per crop acre)				(horse and machinery cost per crop acre)		
Less than 181	\$8.33	\$9.40	\$10.74		\$4.53	\$5.10	\$5.65
181 to 300	5.37	5.98	7.15		3.70	3.85	4.25
301 or more	3.75	4.92	6.74		3.05	3.85	4.25

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and source of farm income (Tables 7 and 8).

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 7, 1940

Item	Your farm	Average of all farms	Jefferson	Clark, Jasper, Crawford	Williamson, Richland, Marion, Franklin, Hamilton, Clay
Number of farms - - - - -	--	98	27	37	34
<u>Capital Investments</u>					
Land - - - - -	\$	\$ 7 504	\$ 4 809	\$10 046	\$ 6 879
Farm improvements - - - - -		2 196	1 541	2 792	2 070
Horses - - - - -		370	404	315	403
Productive livestock: Cattle - - - - -		978	623	1 097	1 131
Hogs - - - - -		304	243	397	252
Sheep - - - - -		107	98	75	149
Poultry - - - - -		129	102	159	116
Total productive livestock - - - - -	()	(1 518)	(1 066)	(1 728)	(1 648)
Feed and grain - - - - -		1 127	779	1 487	1 010
Machinery and equipment - - - - -		1 193	777	1 446	1 248
Automobile (farm share) - - - - -		127	107	130	139
Total - - - - -	\$	\$14 035	\$ 9 483	\$17,944	\$13 397
<u>Receipts and Net Increases</u>					
Horses - - - - -	\$	\$ --	\$ --	\$ --	\$ --
Productive livestock: Cattle - - - - -		502	256	678	507
Dairy sales - - - - -		290	151	270	420
Hogs - - - - -		635	431	939	468
Sheep - - - - -		98	87	89	117
Poultry - - - - -		81	33	131	66
Egg sales - - - - -		230	156	303	209
Total productive livestock - - - - -	()	(1 836)	(1 114)	(2 410)	(1 787)
Farm products used in household - - - - -		244	227	248	253
Feed and grain - - - - -		315	179	516	204
Labor off farm - - - - -		45	24	48	57
Miscellaneous - - - - -		14	17	15	10
AAA payments - - - - -		226	89	291	263
Total - - - - -	\$	\$ 2 680	\$ 1 650	\$ 3 528	\$ 2 574
<u>Expenses and Net Decreases</u>					
Farm improvements - - - - -	\$	\$ 146	\$ 123	\$ 160	\$ 148
Horses - - - - -		20	22	32	6
Productive livestock - - - - -		--	--	--	--
Feed and grain - - - - -		--	--	--	--
Machinery and equipment - - - - -		299	176	412	272
Automobile (farm share) - - - - -		69	51	70	80
Hired labor - - - - -		161	85	224	153
Miscellaneous - - - - -		16	14	21	13
Crop expense - - - - -		102	80	104	117
Livestock expense - - - - -		24	12	39	19
Taxes - - - - -		148	101	187	143
Total - - - - -	\$	\$ 985	\$ 664	\$ 1 249	\$ 951
Receipts less expenses - - - - -	\$	\$ 1 695	\$ 986	\$ 2 279	\$ 1 623
Family labor - - - - -		216	186	204	254
Returns for labor, capital, mgt. - - - - -	\$	\$ 1 479	\$ 800	\$ 2 075	\$ 1 369
Operator's labor - - - - -		402	358	443	392
Returns for capital and mgt. - - - - -	\$	\$ 1 077	\$ 442	\$ 1 632	\$ 977
Rate Earned on Investment - - - - -	%	7.7%	4.7%	9.1%	7.3%
Interest on investment - - - - -	\$	\$ 702	\$ 474	\$ 897	\$ 670
Labor and Management Earnings - - - - -		777	326	1 178	699
Nonfarm income - - - - -	\$	\$ 121	\$ 122	\$ 54	\$ 194

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 7, 1940

Item	Average of all farms	Jefferson	Clark, Jasper, Crawford	Williamson, Richland, Marion, Franklin, Hamilton, Clay
Rate earned on investment- - - - -	7.7%	4.7%	9.1%	7.3%
Acres in farm- - - - -	248	192	261	278
Acres tillable - - - - -	200	157	210	224
Acres in crops - - - - -	133	92	153	143
Gross earnings per acre- - - - -	\$10.82	\$ 8.61	\$13.51	\$ 9.27
Total expenses per acre ^b / - - - - -	6.47	6.30	7.26	5.75
Net earnings per acre- - - - -	\$ 4.35	\$ 2.31	\$ 6.25	\$ 3.52
<u>Investments</u>				
Value of land per acre - - - - -	\$ 30	\$ 25	\$ 38	\$ 25
Value of improved land per acre- - -	32	26	41	26
Value of improvements per acre - - -	9	8	11	7
Total investment per acre- - - - -	57	49	69	48
<u>Land Use</u>				
Percent of land area tillable- - - -	80.8	81.9	80.3	80.6
Percent of tillable land in:				
Corn - - - - -	19.6	17.3	25.0	15.4
Oats - - - - -	5.2	5.9	5.3	4.8
Wheat- - - - -	9.0	9.3	11.6	6.3
Soybeans - - - - -	2.1	.5	2.9	2.2
Other crops- - - - -	14.1	11.1	13.0	16.6
Legume hay and pasture - - - - -	24.6	25.9	21.8	26.8
Nonlegume hay and pasture- - - - -	25.4	30.0	20.4	27.9
<u>Crop Yields</u>				
Corn, bu.- - - - -	35.6	25.2	44.9	24.7
Oats, bu.- - - - -	33.2	28.0	37.7	31.2
Wheat, bu. - - - - -	19.7	21.4	19.4	18.9
Soybeans, bu.- - - - -	10.7	11.3	13.3	7.1
<u>Livestock Factors</u>				
Value of feed fed to prod. l.s.- - -	\$1 302	\$ 821	\$1 725	\$1 226
Feed fed per acre to prod. l.s.- - -	5.25	4.28	6.60	4.42
Returns per \$100 worth of feed fed -	154	156	150	160
Poultry returns per hen- - - - -	2.49	2.25	2.72	1.89
Number of litters farrowed - - - - -	9.6	8.4	13.0	6.8
Number of pigs weaned per litter - -	6.8	6.3	6.7	7.1
Returns per litter farrowed- - - - -	\$ 79	\$ 68	\$ 83	\$ 77
Average number of cows milked- - - -	5.3	4.4	4.9	6.5
Dairy returns per cow milked - - - -	\$ 69	\$ 55	\$ 70	\$ 76
<u>Expense Factors</u>				
Machinery cost per crop acre ^a / - - -	\$ 2.77	\$ 2.47	\$ 3.14	\$ 2.46
Horse and machinery cost per crop A.	3.69	3.89	3.91	3.31
Labor cost per crop acre ^b / - - - -	5.69	6.59	5.50	5.39
Total months of labor- - - - -	18.8	15.4	20.5	19.5
Number of work horses- - - - -	3.2	3.1	3.0	3.4
Improvement cost per acre- - - - -	\$.59	\$.64	\$.61	\$.53
Taxes per acre- - - - -	.60	.53	.72	.52

a/ Includes farm share of automobile.

b/ Includes operator's and family labor.

Influence of Price Changes on Illinois Farm Incomes

Prices of important farm products.--Prices of most livestock and livestock products were higher at the end of 1940 than at the beginning, but prices of all grains except corn were lower.

Although many commodities were lower in price at the end of the year than at the beginning, all the principal Illinois farm products except horses and hogs averaged higher in 1940 than in 1939. The index of all Illinois farm prices averaged 5 percent higher in 1940 than in 1939. The increases for the various groups were as follows: grains, 25 percent; dairy products, 8 percent; fruits, 6 percent; and chickens and eggs, 3 percent. Meat animals decreased 4 percent because of the lower price of hogs.

A great deal of the variation in earnings between the different types of farming in Illinois is due to the constantly shifting ratios between the prices of various livestock products and between those of livestock products and grains. During 1940, the price of beef cattle was materially higher than that of hogs, other livestock, and livestock products. Likewise, the ratio of the price of cattle to the price of corn was much more favorable to the cattle feeder than to the hog feeder. In 1940, 9.2 bushels of corn equaled in value 100 pounds of live hog compared with an average of 15.4 bushels in 1939. During the fall breeding season, the ratio was very unfavorable to the hog producer.

<u>Farm product</u>	<u>December 15 farm prices</u>		<u>Average yearly farm prices</u>	
	<u>1939</u>	<u>1940</u>	<u>1939</u>	<u>1940</u>
Corn, bu.	\$.47	\$.52	\$.43	\$.56
Wheat, bu.	.88	.79	.67	.81
Oats, bu.	.35	.33	.28	.32
Barley, bu.	.44	.49	.41	.46
Soybeans, bu.	.95	.81	.74	.83
Hay, ton	6.50	7.30	6.05	6.68
Horses, head	85.00	74.00	85.00	77.00
Hogs, cwt.	5.10	5.80	6.56	5.54
Beef cattle, cwt.	8.30	9.80	8.18	8.84
Lambs, cwt.	8.20	8.80	8.18	8.52
Milk cows, head	65.00	68.00	63.00	65.00
Milk, cwt.	1.80	2.00	1.59	1.68
Butterfat, lb.	.26	.34	.23	.27
Chickens, lb.	.11	.13	.13	.13
Eggs, doz.	.19	.27	.16	.17

Variations in supplies.--Prices of farm products at inventory time influence farm earnings, because all feed, grain, livestock, and other farm property must be valued at the beginning of the year and at the end. The influence is greatest where large stocks are on hand at inventory time. Abundant feed supplies and increasing inventories have characterized the years since the drouth year of 1936. In 1940, however, the rather spotted crop situation resulted in somewhat low inventories of feed on some farms and large feed supplies on others. For the state as a whole, the corn reserves on January 1, 1941, were the smallest since 1937, reflecting not only the smaller crop but also the smaller amount of sealing that took place under the loan program. Supplies of other feed and grain crops were larger on January 1, 1941, than in 1940. According to the Division of Agricultural Statistics at Springfield, the supplies of the four major grain crops on Illinois farms on January 1, 1940, and 1941, were as follows:

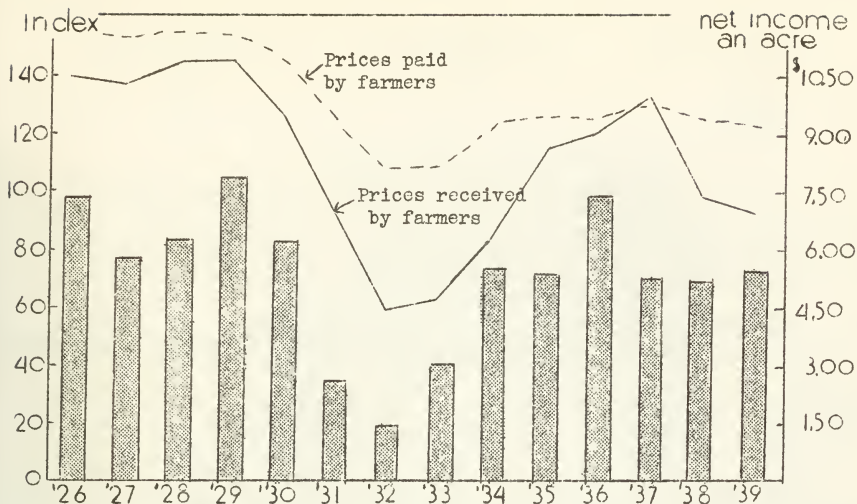


Fig. 2.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1939.

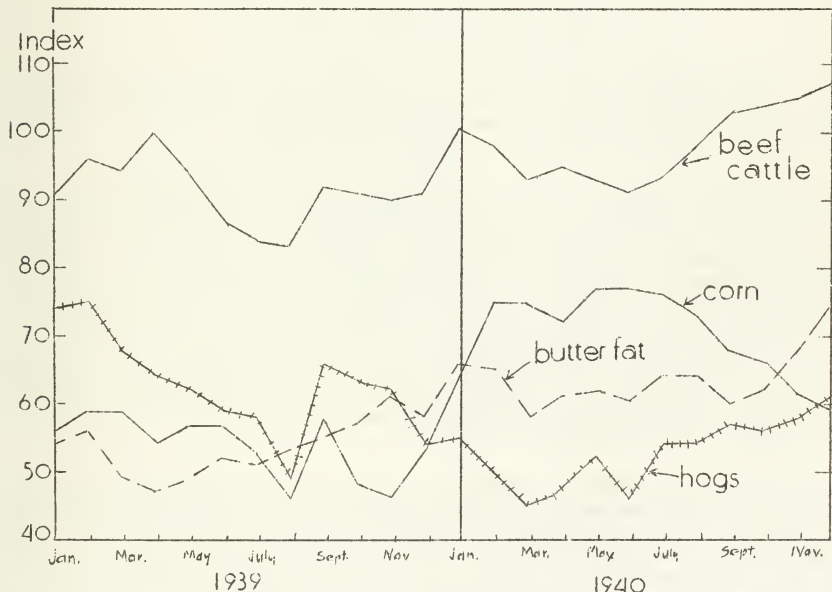


Fig. 3.--Indices of the average monthly farm prices of corn, hogs, butterfat, and beef cattle, 1939 and 1940. (1924-1929 = 100)

<u>Type of grain</u>	<u>1940</u> (million bushels)	<u>1941</u> (million bushels)
Corn	351	280
Oats	57	98
Wheat	5	8
Soybeans	15	17

On accounting farms, all livestock numbers increased in 1939 over 1938. In 1940, however, only the numbers of milk cows, beef cows, feeder cattle, and fall pigs increased; the numbers of feeder lambs, brood sows, spring pigs, and summer pigs decreased. The following data indicate the percentage increase in livestock numbers on 2,847 accounting farms during the calendar year 1940.

<u>Type of livestock</u>	<u>1940</u> (percent of increase)	<u>Type of livestock</u>	<u>1940</u> (percent of increase)
Milk cows	3	Brood sows	-2
Beef cows	10	Spring pigs	-3
Feeder cattle	12	Summer pigs	-2
Feeder lambs	- 2	Fall pigs	+9

The increase in the numbers of milk cows, beef cows, and feeder cattle was general throughout the United States. This upward swing in numbers may be expected to continue for two or three more years. The decrease in the number of brood sows, spring pigs, and summer pigs is much less than that which took place in the corn belt as a whole. Likewise, fall pigs decreased 12 percent in the United States but increased 9 percent on Illinois accounting farms.

Crop Yields in Illinois, 1940

The year 1940 was the fourth consecutive year of high crop yields in Illinois. The weighted average yield of corn, oats, wheat, and soybeans was 128 percent of the 10-year average, 1929-1938, and was within five points of being as high as in 1939, when the average yield was 133 percent.

The 1940 yields of these four crops, as expressed in percentages of the 1929-1938 averages, follow: corn, 126.8; oats, 154.9; wheat, 129.3; and soybeans, 89.2. In 1940 corn yields were higher than the average of the ten years in each of the counties of the state except Clay, Crawford, Franklin, Hardin, Jefferson, Livingston, Marshall, Richland, and Wayne; oat yields were higher in each of the counties except Union; and wheat yields were higher in each of the counties except Calhoun and Cook. Soybean yields, on the other hand, were below the average in all the principal soybean-producing counties. The counties with the highest average yields of the various crops in 1940 compared with those for the base period follow: Randolph county--corn, 170 percent; Grundy county--Oats, 199 percent; Alexander county and Whiteside county--wheat, 159 percent; and Macoupin county--soybeans, 126 percent.

The counties with the highest crop yields were located, for the most part, in northern and southwestern Illinois where weather conditions were particularly favorable for the small-grain crops as well as for the corn crop. On the other hand, the counties with the lowest crop yields were located in the south-central and southeastern areas of the state. Another group of counties which extended diagonally southeast from Knox county had spotted and moderately low crop yields in relation to the crop yields for the rest of the state. The variation in crop yields between counties and groups of counties as well as between communities, townships, and even individual farms was greater than usual in 1940 because of differences in rainfall and other climatic conditions.

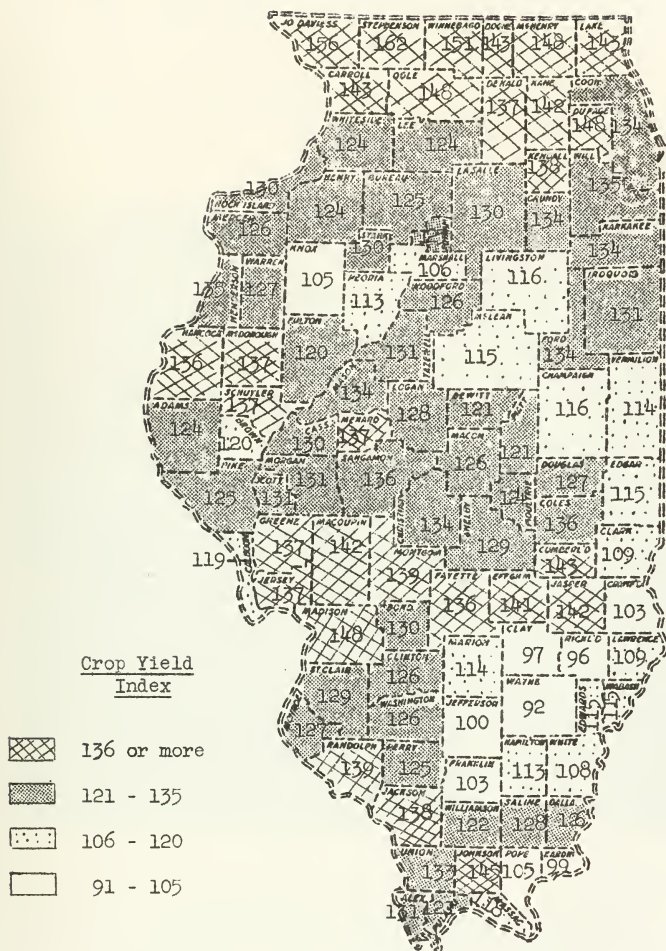


Fig. 4.--Crop yields for 1940 compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1940



FARMING-TYPE AREA EIGHT Wabash Valley Grain and Livestock Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON FIFTY-SEVEN FARMS IN FARMING-TYPE AREA 8, 1940

By P. E. Johnston, J. B. Cunningham, and L. W. Schruben^{1/}

Farm earnings of accounting farms in Farming-Type Area 8 were approximately the same in 1940 as in 1939. The average net earnings per acre were \$6.15 in 1940, \$6.14 in 1939, and \$4.55 in 1938. The items considered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor (Table 1).



 Farming-Type Area 8
Grain and Livestock

Larger cash expenses were offset by slightly larger cash receipts and larger inventory increases in 1940 than in 1939. Cash expenses for improvements, machinery and equipment, and feed and grain were larger in 1940 than in 1939; but those for productive livestock were smaller.

The accounting farms in this report were larger than the average of all the farms in the area, the crop yields were above the average, and the farm operators were more skillful than the average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations in order to locate the strong and weak places in the manage-

ment of his farm. The data in Tables 1 to 8 and Figure 1 are particularly well adapted for such a comparison because they contain measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

^{1/} F. J. Reiss supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

W. D. Murphy, Edwards County
Thurman Wright, White County
H. C. Wheeler, Lawrence County

H. H. Lett, Wabash County
R. H. Roll, Gallatin County
H. C. Neville, Saline County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 8, 1937-1940

Item	Your farm	Average of all farms in area			
		1940	1939	1938	1937
Number of farms- - - - -	--	57	63	69	43
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$	\$ 15	\$ 47	\$ 26	\$ 52
Livestock- - - - -		17	136	129	82
Feed and grain - - - - -		360	-43	-97	171
Machinery and equipment- - - - -		64	42	84	152
Automobile (farm share)- - - - -		21	3	-2	--
Total- - - - -	\$	\$ 477	\$ 185	\$ 140	\$ 457
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$	\$ 8	\$ 4	\$ 14	\$ 7
Horses - - - - -		39	50	39	65
Productive livestock: Cattle - - - - -		646	558	572	660
Dairy sales- - - - -		161	149	199	225
Hogs - - - - -		686	681	778	767
Sheep- - - - -		67	65	54	106
Poultry- - - - -		74	83	82	76
Egg sales- - - - -		206	195	186	278
Total productive livestock - - - - -	()	(1 840)	(1 731)	(1 871)	(2 112)
Feed and grain - - - - -		1 062	1 111	826	1 331
Machinery and equipment- - - - -		166	132	118	168
Automobile (farm share)- - - - -		21	34	21	--
Labor off farm - - - - -		31	31	32	74
Miscellaneous- - - - -		14	13	2	19
AAA payments - - - - -		339	338	85	174
Total- - - - -	\$	\$3 520	\$3 444	\$3 008	\$3 950
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$	\$ 203	\$ 164	\$ 177	\$ 191
Horses - - - - -		17	27	28	46
Productive livestock: Cattle - - - - -		273	330	288	223
Hogs - - - - -		47	68	61	42
Sheep- - - - -		10	19	3	31
Poultry- - - - -		23	26	24	24
Total productive livestock - - - - -	()	(353)	(443)	(376)	(320)
Feed and grain - - - - -		371	264	252	572
Machinery and equipment- - - - -		625	466	496	573
Automobile (farm share)- - - - -		124	119	100	--
Hired labor- - - - -		187	172	210	291
Miscellaneous- - - - -		22	20	20	21
Crop expense - - - - -		116	96	107	240
Livestock expense- - - - -		18	22	23	21
Taxes- - - - -		204	181	171	181
Total- - - - -	\$	\$2 240	\$1 974	\$1 960	\$2 456
<u>Summary</u>					
Cash balance - - - - -	\$	\$1 280	\$1 470	\$1 048	\$1 494
Farm products used in household ^a - - - - -		211	239	252	--
Total inventory change - - - - -		477	185	140	457
Receipts less expenses - - - - -	\$	\$1 968	\$1 894	\$1 440	\$1 951
Total unpaid labor - - - - -		574	558	512	557
Net earnings per farm- - - - -		\$1 394	\$1 336	\$ 928	\$1 394
Net earnings per acre- - - - -	\$	\$ 6.15	\$ 6.14	\$ 4.55	\$ 6.12

^a/ Not included as income for 1937.

Inventory changes.--The year 1940 was the fourth consecutive year of increasing inventories, ranging from an increase of \$140 in 1938 to \$477 in 1940 (Table 1). One of the largest increases in 1940 was for feed and grain, resulting from increases in grain prices and the quantity of corn, oats, and wheat on farms at the end of the year. The average amounts of grain on hand in Area 8 at the two inventory periods follow:

<u>Crop</u>	<u>Beginning of year (bushels)</u>	<u>End of year (bushels)</u>
Corn	1 257	1 348
Oats	153	240
Wheat	49	158
Soybeans	80	71

Summary of cash receipts and cash expenses.--Cash receipts exceeded cash expenses in 1940 by \$1,280. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The uniformity in valuation of unpaid labor was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$40 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$1,394 in 1940 compared with \$1,336 for 1939. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 8; for example, 18 farms earned less than 5 percent on their investments, with an average rate earned of 3.1 percent, but 14 farms earned 11 percent or more, with an average rate earned of 13.8 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators had a gain of \$88 for labor and management earnings contrasted with a gain of \$2,112 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

<u>Rate earned on investment (percent)</u>	<u>Number of farms</u>	<u>Average rate earned (percent)</u>	<u>Acres per farm</u>	<u>Capital invested per farm</u>	<u>Gross earnings per farm</u>	<u>Net earnings per farm</u>	<u>Labor and management earnings</u>
Less than 5	18	3.1	227	\$15 278	\$2 296	\$ 481	\$ 88
5 to 11	25	8.2	217	16 364	3 226	1 345	982
11 or more	14	13.8	245	19 193	4 630	2 656	2 112

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 8, 1940

Item	Your farm	Standards for your farm	Average of all farms
Rate earned on investment- - - - -	_____%	8.3%	8.3%
Number of farms- - - - -	__	--	57
Acres in farm- - - - -	_____	227	227
Acres tillable - - - - -	_____	196	196
Acres in crops - - - - -	_____	144	144
Gross earnings per acre- - - - -	\$ _____	\$ _____ a/	\$14.07
Total expenses per acre- - - - -	_____	_____	7.92
Net earnings per acre - - - - -	\$ _____	\$ _____	\$ 6.15
<u>Investments</u>			
Value of land per acre - - - - -	\$ _____	\$ 46	\$ 46
Value of improved land per acre- - - - -	_____	47	47
Value of improvements per acre - - - - -	_____	9	9
Total investment per acre- - - - -	_____	74	74
<u>Land Use</u>			
Percent of land area tillable- - - - -	_____	a/	86.3
Percent of tillable land in:			
Corn - - - - -	_____	_____	24.7
Oats - - - - -	_____	_____	5.2
Wheat- - - - -	_____	_____	17.2
Soybeans - - - - -	_____	_____	4.7
Other crops- - - - -	_____	_____	14.3
Legume hay and pasture - - - - -	_____	_____	22.1
Nonlegume hay and pasture- - - - -	_____	_____	11.8
<u>Crop Yields</u>			
Corn, bu.- - - - -	_____	b/	41.6
Oats, bu.- - - - -	_____	_____	40.4
Wheat, bu. - - - - -	_____	_____	20.9
Soybeans, bu.- - - - -	_____	_____	9.2
<u>Livestock Factors</u>			
Value of feed fed to productive livestock- - -	\$ _____	\$ 1 235	\$1 235
Feed fed per acre to productive livestock- - -	_____	c/	5.45
Returns per \$100 worth of feed fed - - - - -	_____	_____	138
Poultry returns per hen - - - - -	_____	2.03	2.03
Number of litters farrowed - - - - -	_____	9.9	9.9
Number of pigs weaned per litter - - - - -	_____	6.6	6.6
Returns per litter farrowed- - - - -	\$ _____	\$ 72	\$ 72
Average number of cows milked- - - - -	_____	3.5	3.5
Dairy returns per cow milked - - - - -	\$ _____	\$ _____ c/	65
<u>Expense Factors</u>			
Machinery cost per crop acre - - - - -	\$ _____	\$ _____ d/	\$ 3.32
Horse and machinery cost per crop acre - - -	_____	_____	4.20
Labor cost per crop acre - - - - -	_____	_____	5.09
Total months of labor- - - - -	_____	e/	18.4
Number of work horses- - - - -	_____	_____	3.2
Improvement cost per acre- - - - -	\$ _____	\$ _____	\$.79
Taxes per acre- - - - -	_____	a/	.77

Source of Standards:

a/ Table 3, value of land.

b/ Fig. 1, value of land.

c/ Table 4, source of income.

d/ Table 6, size of farm and value of feed fed.

e/ Table 5, size of farm.

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you compare your efficiency with that of other farmers in your locality.

[illegible]

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 8, 1940

Item	Value of improved land			
	\$18 to \$32	\$33 to \$47	\$48 to \$62	\$63 or more
Average value of improved land - -	\$ 27	\$ 40	\$ 56	\$ 82
Number of farms - - - - -	16	21	11	9
Acres per farm - - - - -	187	246	235	243
Percent of land area tillable - -	79.2	88.2	90.1	87.2
Percent of tillable land in:				
Corn - - - - -	21.1	23.5	26.6	29.7
Oats - - - - -	6.9	5.0	3.8	4.9
Wheat - - - - -	13.2	18.9	16.0	19.8
Soybeans - - - - -	2.8	6.2	5.5	2.6
Other crops - - - - -	15.6	13.2	16.3	13.0
Legume hay and pasture - - - -	27.8	20.2	20.6	20.7
Nonlegume hay and pasture - - -	12.6	13.0	11.2	9.3
Gross earnings per acre - - - - -	\$ 9.42	\$13.56	\$15.45	\$20.07
Total expenses per acre - - - - -	<u>6.67</u>	<u>7.46</u>	<u>9.18</u>	<u>9.29</u>
Net earnings per acre - - - - -	\$ 2.75	\$ 6.10	\$ 6.27	\$10.78
Land tax per acre - - - - -	\$.56	\$.73	\$.90	\$ 1.08

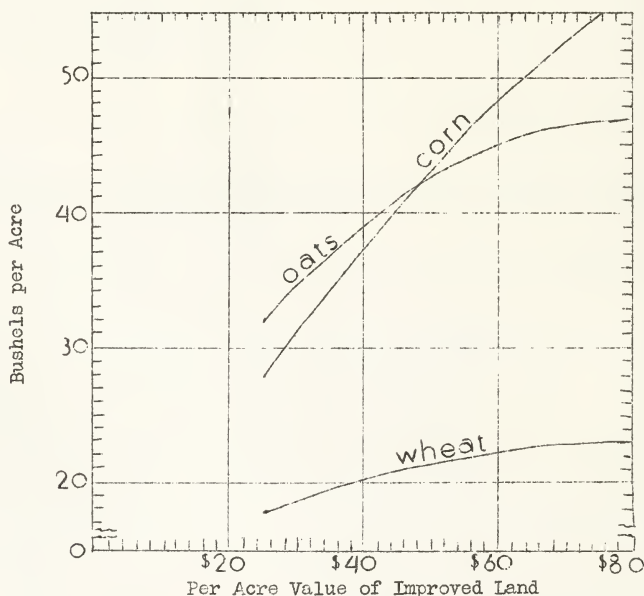


Fig. 1.--Average yields of corn, oats, and wheat
with varying values of improved land.

Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per \$100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1. They are classified as follows:

- Table 3 - Value of improved land.
Gross earnings, total expenses, and net earnings per acre.
All items in the land-use section (Table 2).
Land tax per acre.
- Figure 1 - Value of improved land.
Yields for corn, oats, and wheat.
- Table 4 - Source of income.
Feed fed per acre to productive livestock.
Returns per \$100 worth of feed fed.
Dairy returns per cow.
- Table 5 - Size of farm.
Total months of labor.
Number of work horses.
Improvements cost per acre.
- Table 6 - Size of farm and amount of feed fed per acre.
Horse and machinery cost per crop acre.
Labor cost per crop acre.

The terms used in the tables are the same as those in the Illinois farm account book. For example, "improved land" is classified on page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on page 18, line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields.--The percent of tillable land in grain crops and "other crops" increased from 60 to 70 as the value per acre for improved land increased from an average of \$27 to \$82 (Table 3). Likewise, the percent of land area tillable, the net earnings per acre, and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, and wheat increased rapidly as the land value increased from \$22 per acre to approximately \$80 per acre (Fig. 1). By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and net income per acre were high or low for 1940 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 8, 1940

Item	Source of income		
	Grain 40% +	General farms	
		L.S. 60% -	L.S. 60% +
Number of farms - - - - -	16	22	19
Percent of income from productive livestock	25.9	49.7	76.9
Percent of income from crops - - - - -	59.1	26.3	3.8
<u>Investments</u>			
Total per farm - - - - -	\$22 090	\$11 742	\$17 950
Total per acre - - - - -	78	64	79
Land per acre - - - - -	53	40	44
Improvements per acre - - - - -	8	7	12
Machinery per acre - - - - -	6.85	6.11	5.88
<u>Earnings</u>			
Per farm			
Gross earnings - - - - -	\$ 4 792	\$ 2 129	\$ 3 075
Gross expenses - - - - -	2 202	1 348	1 978
Net earnings - - - - -	\$ 2 590	\$ 781	\$ 1 097
Per acre			
Gross earnings - - - - -	\$ 16.88	\$ 11.52	\$ 13.53
Gross expenses - - - - -	7.76	7.29	8.70
Net earnings - - - - -	\$ 9.12	\$ 4.23	\$ 4.83
Rate earned on investment - - - - -	11.7%	6.7%	6.1%
Labor and management earnings - - - - -	1 926	607	608
<u>Size and Intensity</u>			
Acres per farm - - - - -	283.9	184.8	227.3
Percent of land area tillable - - - - -	90.6	82.6	85.3
Percent of tillable land in grain - - - - -	64.7	48.0	45.1
Percent in hay and pasture - - - - -	20.4	37.1	46.2
Feed fed per acre to productive livestock	\$ 3.57	\$ 4.45	\$ 8.36
Months of labor per 100 crop acre - - - - -	9.4	16.3	14.8
Total months of labor - - - - -	\$ 20.8	\$ 15.8	\$ 19.5
<u>Crop Yields per Acre</u>			
Corn, bu. - - - - -	45.9	33.2	44.8
Wheat, bu. - - - - -	22.4	19.0	19.7
<u>Livestock Returns</u>			
Per \$100 feed fed - - - - -	\$ 138	\$ 148	\$ 133
Hog returns per litter - - - - -	71	69	74
Dairy returns per cow - - - - -	64	64	68
<u>Expense Factors</u>			
Labor cost per crop acre - - - - -	\$ 3.77	\$ 6.28	\$ 5.94
Horse and machinery cost per crop acre - - - - -	3.48	4.34	5.09
Improvement cost per acre - - - - -	.59	.59	1.20
Taxes per acre - - - - -	.85	.73	.72

Source of income.--The grouping of accounting farms according to source of income for 1940 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that grain farms showed the largest rate earned on the investment for 1940 and that general farms with the largest amount of livestock showed the smallest does not mean that such a relationship will prevail over a long period of years. The relative profitability of these enterprises in 1940 was due largely to conditions affecting price and production.

When comparing the returns on the various groups of farms per \$100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per \$100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117.

Furthermore, when comparing crop yields for the various types of farming, one should note the following items which indicate that the grain farms were located on the better land: (1) high value of land per acre; (2) large percent of land area tillable; (3) large percent of land in grain; (4) high yield of corn and wheat per acre; and (5) high land tax per acre.

Differences in expenses, on the other hand, are highly significant for the three groups of farms. The labor cost per crop acre ranged from \$3.77 on the grain farms to \$6.28 on the general farms with the least amount of livestock; the horse and machinery cost per crop acre was highest on the general farms with the largest amount of livestock, where it averaged \$5.09 and lowest on the grain farms, where it averaged \$3.48; and the improvement cost per acre averaged \$1.20 on the livestock farms and \$.59 on both the grain farms and the general farms with the least amount of livestock.

Size of farm.--When the farm records in Farming-Type Area 8 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 12 farms that were 301 acres or larger in size had labor and management earnings which averaged \$1,214 contrasted with \$617 for the 23 farms that averaged 133 acres in size. The rate earned on investment was highest on the group ranging from 181 acres to 300 acres in size.

The smaller farms fed more livestock in relation to their size than did the larger ones. This variation was indicated by the larger amount of feed fed per acre to productive livestock, by the larger percent of income from livestock, and by the smaller percent of income from crops.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 8, 1940

Item	Total acres in farm		
	61 to 180	181 to 300	301 or more
Number of farms - - - - -	23	22	12
Acres per farm- - - - -	133	228	404
<u>Investments</u>			
Total per farm- - - - -	\$ 9 725	\$16 208	\$31 045
Total per acre- - - - -	73	71	77
Land per acre - - - - -	41	45	49
Improvements per acre - - - - -	10	8	10
Machinery per acre- - - - -	6.78	6.62	5.65
<u>Earnings</u>			
Per farm			
Gross earnings - - - - -	\$ 1 897	\$ 3 342	\$ 5 398
Gross expenses - - - - -	1 211	1 732	3 042
Net earnings - - - - -	\$ 686	\$ 1 610	\$ 2 356
Per acre			
Gross earnings- - - - -	\$ 14.26	\$ 14.65	\$ 13.36
Gross expenses- - - - -	9.10	7.59	7.53
Net earnings - - - - -	\$ 5.16	\$ 7.06	\$ 5.83
Rate earned on investment - - - - -	7.1%	9.9%	7.6%
Labor and management earnings - - - - -	\$ 617	\$ 1 225	\$ 1 214
<u>Size and Intensity</u>			
Percent of land area tillable - - - - -	86.6	88.6	83.8
Percent of tillable land in grain - - - - -	49.0	54.2	54.8
Percent in hay and pasture - - - - -	37.9	32.7	32.7
Feed fed per acre to productive livestock - - - - -	\$ 7.01	\$ 4.62	\$ 5.32
Percent of income from productive livestock - - - - -	64.4	39.8	47.4
Percent of income from crops- - - - -	13.1	39.9	38.4
Months of labor per 100 crop acres- - - - -	17.4	12.4	10.6
Total months of labor- - - - -	13.7	18.8	26.9
Number of work horses- - - - -	3.0	3.0	4.0
<u>Crop Yields per Acre</u>			
Corn, bu. - - - - -	37.5	37.5	48.4
Wheat, bu.- - - - -	20.0	20.5	21.9
<u>Livestock Returns</u>			
Per \$100 feed fed - - - - -	\$ 144	\$ 143	\$ 128
Hog returns per litter- - - - -	78	70	64
Dairy returns per cow - - - - -	65	74	51
<u>Expense Factors</u>			
Labor cost per crop acre- - - - -	\$ 6.91	\$ 4.86	\$ 4.25
Horse and machinery cost per crop acre- - - - -	4.91	3.65	4.36
Improvement cost per acre - - - - -	.83	.64	.93
Land tax per acre - - - - -	.83	.76	.76

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses.--Labor cost per crop acre increased as the amount of livestock increased but decreased as the size of the farms increased. The only exception to these trends in labor cost was on the large farms where a small amount of feed was fed and the cost tended to level off rather than to decrease.

The horse and machinery cost also increased as the amount of livestock increased but failed to follow the same pattern as that for labor cost as the farms increased in size. The lowest average horse and machinery cost was on the farms ranging from 181 to 300 acres in size.

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 8, 1940

Acres per farm	Feed fed per acre			Feed fed per acre		
	Less than \$4.00	\$4.00 to \$5.99	\$7.00 or more	Less than \$4.00	\$4.00 to \$5.99	\$7.00 or more
	(labor cost per crop acre)			(horse and machinery cost per crop acre)		
61 to 180	\$5.50	\$6.91	\$7.20	\$4.02	\$4.90	\$5.74
181 to 300	3.75	4.82	6.00	3.48	3.65	5.00
300 or more	3.75	4.25	5.00	3.51	4.30	5.20

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and source of farm income (Tables 7 and 8).

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 8, 1940

Item	Your farm	Average of all farms	Edwards	Gallatin, Lawrence, Saline, Wabash, and White
Number of farms - - - - -	--	57	25	32
<u>Capital Investments</u>				
Land - - - - -	\$ _____	\$10 378	\$ 7 173	\$12 883
Farm improvements - - - - -	_____	2 087	1 369	2 647
Horses - - - - -	_____	349	282	400
Productive livestock: Cattle - - - - -	_____	772	612	897
Hogs - - - - -	_____	276	253	294
Sheep - - - - -	_____	80	80	81
Poultry - - - - -	_____	130	139	122
Total productive livestock - - - - -	()	(1 258)	(1 084)	(1 394)
Feed and grain - - - - -	_____	1 217	933	1 439
Machinery and equipment - - - - -	_____	1 283	949	1 544
Automobile (farm share) - - - - -	_____	144	121	162
Total - - - - -	\$ _____	\$16 716	\$11 911	\$20 469
<u>Receipts and Net Increases</u>				
Horses - - - - -	\$ _____	\$ --	\$ --	\$ --
Productive livestock: Cattle - - - - -	_____	444	360	510
Dairy sales - - - - -	_____	161	89	217
Hogs - - - - -	_____	624	509	713
Sheep - - - - -	_____	66	61	70
Poultry - - - - -	_____	45	47	45
Egg sales - - - - -	_____	206	261	162
Total productive livestock - - - - -	()	(1 546)	(1 327)	(1 717)
Farm products used in household - - - - -	_____	211	215	207
Feed and grain - - - - -	_____	1 051	576	1 422
Labor off farm - - - - -	_____	31	39	25
Miscellaneous - - - - -	_____	14	1	24
AAA payments - - - - -	_____	339	342	337
Total - - - - -	\$ _____	\$ 3 192	\$ 2 500	\$ 3 732
<u>Expenses and Net Decreases</u>				
Farm improvements - - - - -	\$ _____	\$ 180	\$ 118	\$ 228
Horses - - - - -	_____	20	26	15
Productive livestock - - - - -	_____	--	--	--
Feed and grain - - - - -	_____	--	--	--
Machinery and equipment - - - - -	_____	395	257	502
Automobile (farm share) - - - - -	_____	82	77	87
Hired labor - - - - -	_____	187	158	211
Miscellaneous - - - - -	_____	22	21	23
Crop expense - - - - -	_____	116	107	122
Livestock expense - - - - -	_____	18	13	22
Taxes - - - - -	_____	204	161	237
Total - - - - -	\$ _____	\$ 1 224	\$ 938	\$ 1 447
Receipts less expenses - - - - -	\$ _____	\$ 1 968	\$ 1 562	\$ 2 285
Family labor - - - - -	_____	155	117	185
Returns for labor, capital, mgt. - - - - -	\$ _____	\$ 1 813	\$ 1 445	\$ 2 100
Operator's labor - - - - -	_____	419	410	425
Returns for capital and mgt. - - - - -	\$ _____	\$ 1 394	\$ 1 035	\$ 1 675
Rate Earned on Investment - - - - -	%	8.3%	8.7%	8.2%
Interest on investment - - - - -	\$ _____	\$ 836	\$ 596	\$ 1 023
Labor and Management Earnings - - - - -	_____	977	849	1 077
Nonfarm income - - - - -	\$ _____	\$ 79	\$ 56	\$ 96

TABLE 8.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 8, 1940

Item	Average of all farms	Edwards	Gallatin, Lawrence, Saline, Webash, and White
Rate earned on investment- - - - -	8.3%	8.7%	8.2%
Acres in farm- - - - -	227	182	262
Acres tillable - - - - -	196	158	226
Acres in crops - - - - -	144	111	169
Gross earnings per acre- - - - -	\$14.07	\$13.77	\$14.24
Total expense per acre ^a / - - - - -	<u>7.92</u>	<u>8.07</u>	<u>7.85</u>
Net earnings per acre- - - - -	\$ 6.15	\$ 5.70	\$ 6.39
<u>Investments</u>			
Value of land per acre - - - - -	\$ 46	\$ 39	\$ 49
Value of improved land per acre- - - - -	47	40	52
Value of improvements per acre - - - - -	9	8	10
Total investment per acre- - - - -	74	66	78
<u>Land Use</u>			
Percent of land area tillable- - - - -	86.3	86.7	86.1
Percent of tillable land in:			
Corn - - - - -	24.7	22.8	25.7
Oats - - - - -	5.2	8.1	3.5
Wheat- - - - -	17.2	13.5	19.2
Soybeans - - - - -	4.7	3.0	5.7
Other crops- - - - -	14.3	14.7	14.1
Legume hay and pasture - - - - -	22.1	20.8	22.8
Nonlegume hay and pasture- - - - -	11.8	17.1	9.0
<u>Crop Yields</u>			
Corn, bu.- - - - -	41.6	35.3	44.4
Oats, bu.- - - - -	40.4	47.3	32.2
Wheat, bu.- - - - -	20.9	22.5	20.3
Soybeans, bu.- - - - -	9.2	11.3	8.5
<u>Livestock Factors</u>			
Value of feed fed to productive l.s. -	\$1 235	\$1 087	\$1 351
Feed fed per acre to productive l.s. -	5.45	5.99	5.15
Returns per \$100 worth of feed fed -	138	136	139
Poultry returns per hen- - - - -	2.03	1.95	2.12
Number of litters farrowed - - - - -	9.9	8.8	10.9
Number of pigs weaned per litter - - -	6.6	6.5	6.7
Returns per litter farrowed- - - - -	\$ 72	\$ 71	\$ 72
Average number of cows milked- - - -	3.5	2.7	4.1
Dairy returns per cow milked - - - -	\$ 65	\$ 55	\$ 70
<u>Expense Factors</u>			
Machinery cost per crop acre ^b / - - - -	\$ 3.32	\$ 3.01	\$ 3.49
Horse and machinery cost per crop acre	4.20	4.16	4.22
Labor cost per crop acre ^a / - - - - -	5.09	5.83	4.71
Total months of labor- - - - -	18.4	16.5	19.9
Number of work horses- - - - -	3.2	3.0	3.3
Improvement cost per acre- - - - -	\$.79	\$.65	\$.87
Taxes per acre- - - - -	.90	.89	.90

a/ Includes operator's and family labor.

b/ Includes farm share of automobile.

Influence of Price Changes on Illinois Farm Incomes

Prices of important farm products.--Prices of most livestock and live-stock products were higher at the end of 1940 than at the beginning, but prices of all grains except corn were lower.

Although many commodities were lower in price at the end of the year than at the beginning, all the principal Illinois farm products except horses and hogs averaged higher in 1940 than in 1939. The index of all Illinois farm prices averaged 5 percent higher in 1940 than in 1939. The increases for the various groups were as follows: grains, 25 percent; dairy products, 8 percent; fruits, 6 percent; and chickens and eggs, 3 percent. Meat animals decreased 4 percent because of the lower price of hogs.

A great deal of the variation in earnings between the different types of farming in Illinois is due to the constantly shifting ratios between the prices of various livestock products and between those of livestock products and grains. During 1940, the price of beef cattle was materially higher than that of hogs, other livestock, and livestock products. Likewise, the ratio of the price of cattle to the price of corn was much more favorable to the cattle feeder than to the hog feeder. In 1940, 9.2 bushels of corn equaled in value 100 pounds of live hog compared with an average of 15.4 bushels in 1939. During the fall breeding season, the ratio was very unfavorable to the hog producer.

<u>Farm product</u>	<u>December 15 farm prices</u>		<u>Average yearly farm prices</u>	
	<u>1939</u>	<u>1940</u>	<u>1939</u>	<u>1940</u>
Corn, bu.	\$.47	\$.52	\$.43	\$.56
Wheat, bu.	.88	.79	.67	.81
Oats, bu.	.35	.33	.28	.32
Barley, bu.	.44	.49	.41	.46
Soybeans, bu.	.95	.81	.74	.83
Hay, ton	6.50	7.30	6.05	6.68
Horses, head	85.00	74.00	85.00	77.00
Hogs, cwt.	5.10	5.80	6.56	5.54
Beef cattle, cwt.	8.30	9.80	8.18	8.84
Lambs, cwt.	8.20	8.80	8.18	8.52
Milk cows, head	65.00	68.00	63.00	65.00
Milk, cwt.	1.80	2.00	1.59	1.68
Butterfat, lb.	.26	.34	.23	.27
Chickens, lb.	.11	.13	.13	.13
Eggs, doz.	.19	.27	.16	.17

Variations in supplies.--Prices of farm products at inventory time influence farm earnings, because all feed, grain, livestock, and other farm property must be valued at the beginning of the year and at the end. The influence is greatest where large stocks are on hand at inventory time. Abundant feed supplies and increasing inventories have characterized the years since the drouth year of 1936. In 1940, however, the rather spotted crop situation resulted in somewhat low inventories of feed on some farms and large feed supplies on others. For the state as a whole, the corn reserves on January 1, 1941, were the smallest since 1937, reflecting not only the smaller crop but also the smaller amount of sealing that took place under the loan program. Supplies of other feed and grain crops were larger on January 1, 1941, than in 1940. According to the Division of Agricultural Statistics at Springfield, the supplies of the four major grain crops on Illinois farms on January 1, 1940, and 1941, were as follows:

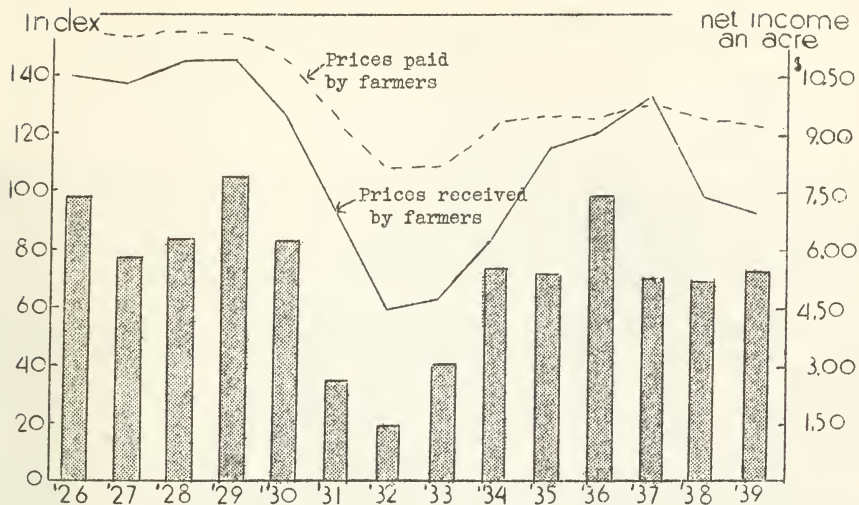


Fig. 2.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1939.

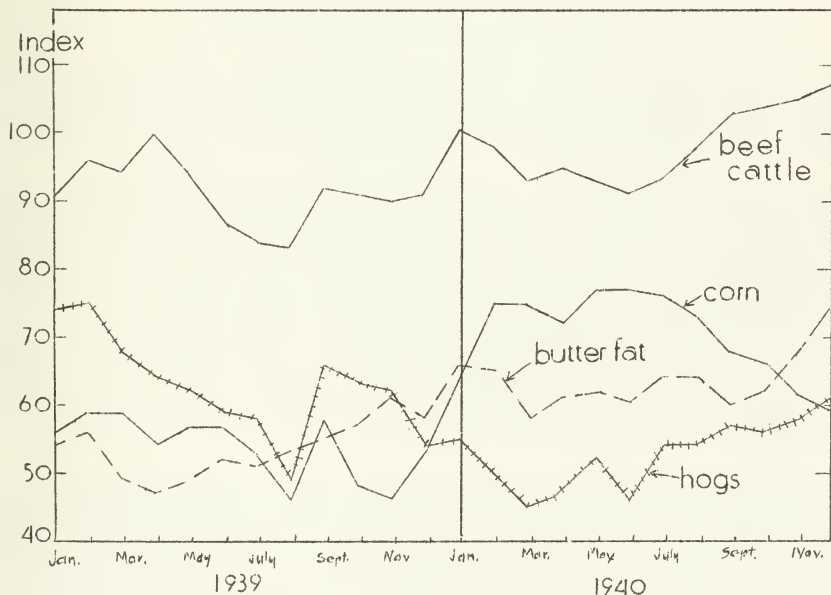


Fig. 3.--Indices of the average monthly farm prices of corn, hogs, butterfat, and beef cattle, 1939 and 1940. (1924-1929 = 100)

<u>Type of grain</u>	<u>1940</u> (million bushels)	<u>1941</u> (million bushels)
Corn	351	280
Oats	57	98
Wheat	5	8
Soybeans	15	17

On accounting farms, all livestock numbers increased in 1939 over 1938. In 1940, however, only the numbers of milk cows, beef cows, feeder cattle, and fall pigs increased; the numbers of feeder lambs, brood sows, spring pigs, and summer pigs decreased. The following data indicate the percentage increase in livestock numbers on 2,847 accounting farms during the calendar year 1940.

<u>Type of livestock</u>	<u>1940</u> (percent of increase)	<u>Type of livestock</u>	<u>1940</u> (percent of increase)
Milk cows	3	Brood sows	-2
Beef cows	10	Spring pigs	-3
Feeder cattle	12	Summer pigs	-2
Feeder lambs	- 2	Fall pigs	49

The increase in the numbers of milk cows, beef cows, and feeder cattle was general throughout the United States. This upward swing in numbers may be expected to continue for two or three more years. The decrease in the number of brood sows, spring pigs, and summer pigs is much less than that which took place in the corn belt as a whole. Likewise, fall pigs decreased 12 percent in the United States but increased 9 percent on Illinois accounting farms.

Crop Yields in Illinois, 1940

The year 1940 was the fourth consecutive year of high crop yields in Illinois. The weighted average yield of corn, oats, wheat, and soybeans was 128 percent of the 10-year average, 1929-1938, and was within five points of being as high as in 1939, when the average yield was 133 percent.

The 1940 yields of these four crops, as expressed in percentages of the 1929-1938 averages, follow: corn, 126.8; oats, 154.9; wheat, 129.3; and soybeans, 89.2. In 1940 corn yields were higher than the average of the ten years in each of the counties of the state except Clay, Crawford, Franklin, Hardin, Jefferson, Livingston, Marshall, Richland, and Wayne; oat yields were higher in each of the counties except Union; and wheat yields were higher in each of the counties except Calhoun and Cook. Soybean yields, on the other hand, were below the average in all the principal soybean-producing counties. The counties with the highest average yields of the various crops in 1940 compared with those for the base period follow: Randolph county--corn, 170 percent; Grundy county--Oats, 199 percent; Alexander county and Whiteside county--wheat, 159 percent; and Macoupin county--soybeans, 126 percent.

The counties with the highest crop yields were located, for the most part, in northern and southwestern Illinois where weather conditions were particularly favorable for the small-grain crops as well as for the corn crop. On the other hand, the counties with the lowest crop yields were located in the south-central and southeastern areas of the state. Another group of counties which extended diagonally southeast from Knox county had spotted and moderately low crop yields in relation to the crop yields for the rest of the state. The variation in crop yields between counties and groups of counties as well as between communities, townships, and even individual farms was greater than usual in 1940 because of differences in rainfall and other climatic conditions.

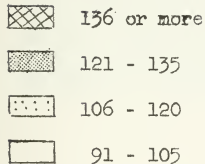


Fig. 4.--Crop yields for 1940 compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

FARM BUSINESS REPORT . . . 1940



FARMING-TYPE AREA NINE Southern Fruit and Vegetable Area

DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE, EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
URBANA, ILLINOIS

Annual Farm Business Report

ON FIFTY-FIVE FARMS IN FARMING-TYPE AREA 9, 1940

By P. E. Johnston, J. B. Cunningham, and K. E. Kinsinger^{1/}

Farm earnings of accounting farms in Farming-Type Area 9 were practically the same in 1940 as in 1939. The average net earnings per acre were \$3.49 in 1940, \$3.31 in 1939, and \$2.73 in 1938. The items considered in calculating the net earnings included: inventory changes; cash receipts; cash expenses; the value of farm products used in the household; and unpaid family labor (Table 1).



▨ Farming-Type Area 9
Fruit and Vegetable

Smaller incomes from feed and grain were, to a great extent, responsible for smaller total cash receipts in 1940 than in 1939. The smaller cash receipts, however, were offset by smaller total cash expenses and larger inventory increases.

The accounting farms in this report were larger than the average of all the farms in the area, the crop yields were above the average, and the farm operators were more skillful than the average in the organization and operation of their farms. Therefore, the figures contained in this report represent conditions which are better than average for the area.

The averages presented in this report provide a good local yardstick of efficiency. Any farmer keeping farm records can apply this yardstick to his business operations

in order to locate the strong and weak places in the management of his farm. The data in Tables 1 to 8 and Figure 1 are particularly well adapted for such a comparison because they contain measures of earnings and measures of those management factors which are responsible for major variations in farm earnings.

^{1/} F. J. Reiss supervised the closing of the farm accounts and the preparation of the tables used in this report. The farm account project was conducted in cooperation with the farm bureaus in the following counties and was supervised by the indicated farm advisers:

J. G. McCall, Jackson-Perry Counties
T. L. Davis, Pulaski-Alexander Counties
G. C. Smith, Pope-Hardin Counties

W. C. Anderson, Johnson County
J. R. Strubinger, Massac County
E. A. Bierbaum, Union County

TABLE 1.--INVENTORY CHANGES, CASH INCOME, AND CASH EXPENSES
Accounting Farms in Farming-Type Area 9, 1937-1940

Item	Your farm	Average of all farms in area			
		1940	1939	1938	1937
Number of farms- - - - -		55	56	37	30
<u>Inventory Changes</u>					
Farm improvements- - - - -	\$	\$ 132	\$ -79	\$ -18	\$ -66
Livestock- - - - -		125	16	44	3
Feed and grain - - - - -		181	61	-122	198
Machinery and equipment- - - - -		35	9	134	190
Automobile (farm share)- - - - -		41	5	13	--
Total - - - - -	\$	\$ 514	\$ 12	\$ 51	\$ 325
<u>Cash Receipts</u>					
Farm improvements- - - - -	\$	\$ 31	\$ 20	\$ --	\$ 1
Horses - - - - -		45	58	99	78
Productive livestock: Cattle - - - - -		396	294	290	235
Dairy sales- - - - -		364	298	312	264
Hogs - - - - -		331	360	667	636
Sheep- - - - -		33	40	12	13
Poultry- - - - -		60	50	65	95
Egg sales- - - - -		119	124	176	206
Total productive livestock - - - - -	()	(1 308)	(1 176)	(1 522)	(1 449)
Feed and grain - - - - -		587	1 169	504	766
Machinery and equipment- - - - -		94	100	93	200
Automobile (farm share)- - - - -		40	13	24	--
Labor off farm - - - - -		14	21	24	120
Miscellaneous- - - - -		2	15	3	1
AAA payments - - - - -		243	259	145	188
Total- - - - -	\$	\$2 364	\$2 831	\$2 414	\$2 803
<u>Cash Expenses</u>					
Farm improvements- - - - -	\$	\$ 213	\$ 168	\$ 127	\$ 115
Horses - - - - -		28	46	56	74
Productive livestock: Cattle - - - - -		135	94	149	39
Hogs - - - - -		34	25	48	35
Sheep- - - - -		9	3	4	5
Poultry- - - - -		15	13	14	21
Total productive livestock - - - - -	()	(193)	(135)	(215)	(100)
Feed and grain - - - - -		184	451	219	302
Machinery and equipment- - - - -		448	373	444	708
Automobile (farm share)- - - - -		157	92	117	--
Hired labor- - - - -		249	411	195	187
Miscellaneous- - - - -		18	25	16	18
Crop expense - - - - -		96	75	72	159
Livestock expense- - - - -		19	24	13	19
Taxes- - - - -		147	135	141	140
Total- - - - -	\$	\$1 752	\$1 935	\$1 615	\$1 822
<u>Summary</u>					
Cash balance - - - - -	\$	\$ 612	\$ 896	\$ 799	\$ 981
Farm products used in households ^a - - - - -		220	229	284	--
Total inventory change - - - - -		514	12	51	325
Receipts less expenses - - - - -	\$	\$1 346	\$1 137	\$1 134	\$1 306
Total unpaid labor - - - - -		530	522	521	605
Net earnings per farm- - - - -	\$	\$ 816	\$ 615	\$ 613	\$ 701
Net earnings per acre- - - - -	\$	\$ 3.49	\$ 3.31	\$ 2.73	\$ 3.41

^a/ Not included as income for 1937.

Inventory changes.--The year 1940 was the fourth consecutive year of increasing inventories, ranging from an increase of \$12 in 1939 to \$514 in 1940 (Table 1). One of the largest increases in 1940 was for feed and grain, resulting from increases in grain prices and the quantity of oats and wheat on farms at the end of the year. The average amounts of grain on hand in Area 9 at the two inventory periods follow:

<u>Crop</u>	<u>Beginning of year (bushels)</u>	<u>End of year (bushels)</u>
Corn	815	763
Oats	63	107
Wheat	63	105

Summary of cash receipts and cash expenses.--Cash receipts exceeded cash expenses in 1940 by \$612 or by a smaller margin than that for any other year during the past four years. Cash balance, the difference between these receipts and expenses, is the average amount of money available for family living expenses, interest, debt payments, and savings.

The uniformity in valuation of unpaid labor was due to the fact that approximately the same amount of family labor was available each year and to the fact that the same rate (\$40 per month) was charged for the physical labor of the operator and other mature members of the family.

The net earnings per farm averaged \$816 in 1940 compared with \$615 for 1939. The figure representing net earnings per farm is the sum remaining as compensation for the use of the capital invested in the business and for the managerial ability of the operator. It is calculated by adding the value of farm products used in the household and the inventory increases to the cash balance and by subtracting the value of unpaid labor from the resulting total. Therefore, this figure indicates the earning power of the business and determines the real value of the farm and its equipment.

Variation in farm earnings.--A wide variation was found in earnings on the farms in Area 9; for example, 20 farms earned less than 3.0 percent on their investment, with an average rate earned of .14 percent, but 16 farms earned 9.0 percent or more, with an average rate earned of 14.4 percent. After deducting all farm expenses and a charge of 5 percent for the use of the capital invested in the business, the former group of operators lacked \$98 of having anything left for labor and management contrasted with a gain of \$1,539 for the latter group. The variation in earnings and in size of farm for all the records in the area was as follows:

<u>Rate earned on investment (percent)</u>	<u>Number of farms</u>	<u>Average rate earned (percent)</u>	<u>Acres per farm</u>	<u>Capital invested per farm</u>	<u>Gross earnings per farm</u>	<u>Net earnings per farm</u>	<u>Labor and management earnings</u>
Less than 3.0	20	.14	196	\$ 8 603	\$1 389	\$ 12	\$ -98
3.0 to 8.9	19	6.0	289	14 808	2 828	891	553
9.0 or more	16	14.4	215	11 994	3 550	1 731	1 539

TABLE 2.--FACTORS HELPING TO ANALYZE THE FARM BUSINESS
Accounting Farms in Farming-Type Area 9, 1940

Item	Your farm	Standards for your farm	Average of all farms
Rate earned on investment- - - - -	_____ %	7.0%	7.0%
Number of farms- - - - -	_____	--	55
Acres in farm- - - - -	_____	234	234
Acres tillable - - - - -	_____	172	172
Acres in crops - - - - -	_____	100	100
Gross earnings per acre- - - - -	\$ _____	\$ _____ ^{a/}	\$ 9.93
Total expenses per acre- - - - -	_____	_____	6.44
Net earnings per acre- - - - -	\$ _____	\$ _____	\$ 3.49
<u>Investments</u>			
Value of land per acre - - - - -	\$ _____	\$ 25 ^{a/}	\$ 25
Value of improved land per acre- - - - -	_____	_____ ^{a/}	29
Value of improvements per acre - - - - -	_____	10	10
Total investment per acre- - - - -	_____	50	50
<u>Land Use</u>			
Percent of land area tillable- - - - -	_____	_____ ^{a/}	73.6
Percent of tillable land in:			
Corn - - - - -	_____	_____	16.0
Oats - - - - -	_____	_____	3.3
Wheat- - - - -	_____	_____	9.1
Soybeans - - - - -	_____	_____	1.2
Others crops - - - - -	_____	_____	13.0
Legume hay and pasture - - - - -	_____	_____	35.6
Nonlegume hay and pasture- - - - -	_____	_____	21.8
<u>Crop Yields</u>			
Corn - - - - -	_____	_____ ^{b/}	38.2
Oats - - - - -	_____	_____	32.1
Wheat- - - - -	_____	_____	17.8
<u>Livestock Factors</u>			
Value of feed fed to productive livestock- - - - -	\$ _____	\$ 872 ^{c/}	\$ 872
Feed fed per acre to productive livestock- - - - -	_____	_____ ^{c/}	3.73
Returns per \$100 worth of feed fed - - - - -	_____	_____	162
Poultry returns per hen- - - - -	_____	2.47	2.47
Number of litters farrowed - - - - -	_____	5.3	5.3
Number of pigs weaned per litter - - - - -	_____	6.8	6.8
Returns per litter farrowed- - - - -	\$ _____	\$ 72	\$ 72
Average number of cows milked- - - - -	_____	5.5	5.5
Dairy returns per cow milked - - - - -	\$ _____	\$ _____ ^{c/}	\$ 78
<u>Expense Factors</u>			
Machinery cost per crop acre - - - - -	\$ _____	\$ _____ ^{d/}	\$ 3.95
Horse and machinery cost per crop acre - - - - -	_____	_____ ^{d/}	5.20
Labor cost per crop acre - - - - -	_____	_____	7.65
Total months of labor- - - - -	_____	_____ ^{e/}	19.9
Number of work horses- - - - -	_____	_____	3.6
Improvement cost per acre- - - - -	_____	_____	.21
Land tax per acre- - - - -	_____	_____ ^{a/}	.53

Source of Standards:

a/ Table 3, value of land.

b/ Fig. 1, value of land.

c/ Table 4, source of income.

d/ Table 6, size of farm and value of feed fed.

e/ Table 5, size of farm.

CHART FOR STUDYING THE EFFICIENCY OF VARIOUS PARTS OF YOUR BUSINESS

Accounting Farms in Farming-Type Area 9, 1940

The numbers above the lines across the middle of the page are the averages for the farms similar in organization to your farm. By drawing a line across each column at the place which measures the efficiency of your farm in that factor, you can compare your efficiency with that of other farmers in your locality.

Rate earned on investment, percent	Acres in farm	Gross earnings per acre	Factors that affect the gross earnings								Factors that affect expenses				
			Percent of tillable land in legume hay and pasture	Crop yields			Feed fed per acre to prod. l.s.	Returns per \$100 feed fed	Poultry returns per hen	Hog returns per litter farrowed	Dairy returns per cow milked	Total expense per acre	Horse and machinery cost per crop acre	Labor cost per crop acre	Improvement cost per acre
				Corn, bu.	Oats, bu.	Wheat, bu.									
14.5	384								3.97	122					
13.0	354								3.67	112					
11.5	324								3.37	102					
10.0	294								3.07	92					
8.5	264								2.77	82					
7.0	234								2.47	72					
5.5	204								2.17	62					
4.0	174								1.87	52					
2.5	144								1.57	42					
1.0	114								1.27	32					
-.5	84								.97	22					

TABLE 3.--USE OF TILLABLE LAND AND OTHER FACTORS
RELATED TO THE VALUE OF IMPROVED LAND
Accounting Farms in Farming-Type Area 9, 1940

Item	Value of improved land			
	\$12 to \$22	\$24 to \$30	\$34 to \$40	\$43 to \$50
Average value of improved land-	\$ 17	\$ 27	\$ 38	\$ 47
Number of farms - - - - -	17	20	12	6
Acres per farm- - - - -	239	201	301	193
Percent of land area tillable -	64.1	82.5	72.7	79.9
Percent of tillable land in:				
Corn- - - - -	13.4	16.7	17.5	16.8
Oats- - - - -	3.5	2.8	3.6	2.6
Wheat - - - - -	1.5	9.9	15.5	9.8
Soybeans- - - - -	.4	1.3	1.5	2.5
Other crops - - - - -	8.3	11.9	14.1	24.2
Legume hay and pasture- - -	39.5	37.2	28.5	33.3
Nonlegume hay and pasture - -	32.9	20.2	19.3	10.8
Gross earnings per acre - - -	\$ 6.68	\$10.41	\$13.34	\$14.86
Total expenses per acre - - -	<u>5.40</u>	<u>7.51</u>	<u>7.44</u>	<u>9.12</u>
Net earnings per acre - - -	\$ 1.28	\$ 2.90	\$ 5.90	\$ 5.74
Land tax per acre - - - - -	\$.49	\$.58	\$.61	\$.64

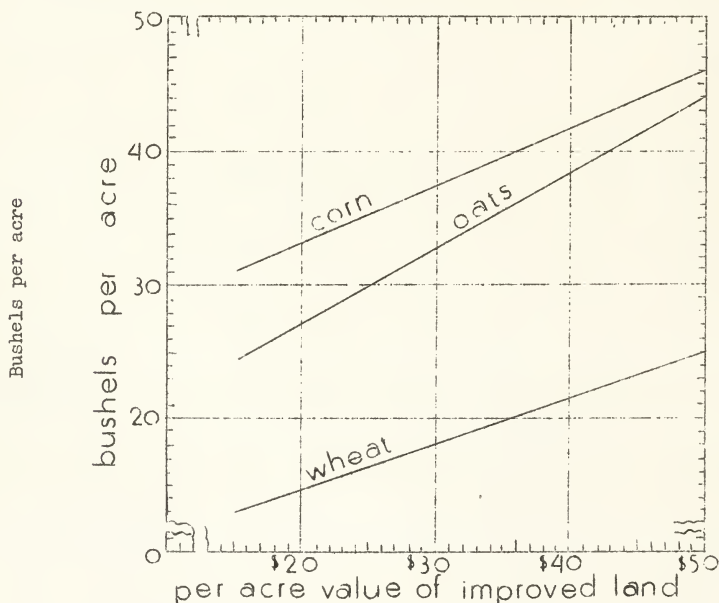


Fig. 1.--Average yields of corn, oats, and wheat
with varying values of improved land.

Explanation of Tables

Variable standards are used in the analysis of the farm business (Table 2). They make allowances for the following facts: (1) that the quality of land affects the cropping system and the crop yields; (2) that the kind of livestock influences the amount of feed fed and the returns per \$100 worth of feed fed; (3) that the size and intensity of the farm business affects practically all the cost items; and (4) that price relationships and quantities of the products produced affect the relative profitableness of various types of farming for any particular year.

The "standards for your farm" (Table 2) are taken from Tables 3 to 6 and from Figure 1. They are classified as follows:

- Table 3 - Value of improved land.
 - Gross earnings, total expenses, and net earnings per acre.
 - All items in the land-use section (Table 2).
 - Land tax per acre.
- Figure 1 - Value of improved land.
 - Yields for corn, oats, and wheat.
- Table 4 - Source of income.
 - Feed fed per acre to productive livestock.
 - Returns per \$100 worth of feed fed.
 - Dairy returns per cow.
- Table 5 - Size of farm.
 - Total months of labor
 - Number of work horses.
 - Improvement cost per acre.
- Table 6 - Size of farm and amount of feed fed per acre.
 - Horse and machinery cost per crop acre.
 - Labor cost per crop acre.

The terms used in the tables are the same as the terms used in the Illinois farm account book. For example, "improved land" is classified on Page 1 of the farm account book. It means tillable land and land occupied by farmstead, roads, and orchards. Likewise, "crop acres" are listed on Page 18, Line 36, of the farm account book. They include all the tillable land on which work has been done in preparing a seedbed or in cultivating or harvesting a crop.

Land use and crop yields.--The percent of tillable land in grain crops and "other crops" increased from 27.6 to 55.9 as the value per acre for improved land increased from an average of \$17 to \$47 (Table 3). Likewise, the net earnings per acre and the land tax per acre increased as the value of improved land increased. On the other hand, the percent of tillable land in legume and nonlegume hay and pasture decreased as the value of the land increased.

Yields per acre for corn, oats, and wheat increased rapidly as the land value increased from \$15 per acre to \$50 per acre (Fig. 1).

By using Table 3 and Figure 1, the account keeper may find out whether his acreage in various crops, crop yields, and net income per acre were high or low for 1940 in comparison with the average of other farms in his area having about the same value of improved land.

TABLE 4.--SOURCE OF INCOME RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 9, 1940

Item	Source of income			
	Fruit and truck	Dairy sales 40% ^a	General farms	
			L.S. 60%-	L.S. 60% ^a
Number of farms - - - - -	10	6	25	14
Percent of income from productive livestock	31.4	81.2	46.8	71.5
Percent of income from crops ^a / - - - - -	40.5	--	30.1	6.5
<u>Investments</u>				
Total per farm - - - - -	\$13 785	\$8 294	\$12 204	\$10 900
Total per acre - - - - -	65	61	49	42
Land per acre - - - - -	29	33	27	19
Improvements per acre ^b / - - - - -	20	10	8	7
Machinery per acre - - - - -	6.43	4.81	5.04	4.71
<u>Earnings</u>				
Per farm				
Gross earnings - - - - -	\$3 058	\$1 937	\$2 425	\$2 162
Gross expenses - - - - -	1 901	1 399	1 584	1 517
Net earnings- - - - -	\$1 157	\$ 538	\$ 841	\$ 645
Per acre				
Gross earnings- - - - -	\$14.41	\$14.19	\$ 9.71	\$ 8.25
Gross expenses- - - - -	8.96	10.25	6.34	5.79
Net earnings- - - - -	\$ 5.45	\$ 3.94	\$ 3.37	\$ 2.46
Rate earned on investment - - - - -	8.4%	6.5%	6.9%	5.9%
Labor and management earnings - - - - -	\$ 782	\$ 523	\$ 612	\$ 495
<u>Size and Intensity</u>				
Acres per farm- - - - -	212	136	250	262
Percent of land area tillable - - - - -	70.9	86.6	75.7	69.0
Percent of tillable land in grain - - - - -	29.5	27.2	35.1	28.4
Percent in hay and pasture- - - - -	41.5	59.8	57.3	66.3
Feed fed per acre to productive livestock	\$ 4.20	\$ 6.42	\$ 3.30	\$ 3.59
Months of labor per 100 crop acre - - - - -	21.6	23.2	18.4	20.8
Total months of labor - - - - -	24.8	17.4	19.6	18.1
<u>Crop Yields per Acre</u>				
Corn, bu. - - - - -	34.8	36.7	38.6	40.0
Wheat, bu.- - - - -	15.2	17.9	17.5	19.9
<u>Livestock Returns</u>				
Per \$100 feed fed - - - - -	\$ 120	\$ 191	\$ 160	\$ 181
Hog returns per litter- - - - -	96	93	64	76
Dairy returns per cow - - - - -	81	119	70	62
<u>Expense Factors</u>				
Labor cost per crop acre- - - - -	\$ 8.45	\$ 8.94	\$ 6.80	\$ 8.28
Horse and machinery cost per crop acre- - - - -	5.78	4.50	5.09	5.21
Improvement cost per acre ^b / - - - - -	.74	.86	.72	.64
Land tax per acre - - - - -	.56	.90	.51	.60

^a/ Includes income from fruit and truck crops.

^b/ Includes tree and plant inventory.

Source of income.--The grouping of accounting farms according to source of income for 1940 gives each farmer an opportunity to compare his farm with the average of other farms having similar sources of income. It also gives him an opportunity to study investments, land use, crop yields, labor requirements, horse and machinery requirements, and other factors that are associated with various types of farming.

Each farmer, however, should use caution in interpreting the data in Table 4. For example, the fact that the general farms with the least livestock showed a larger rate earned on the investment for 1940 than the general farms with the most livestock does not mean that such a relationship will prevail over a long period of years. The relative profitableness of various enterprises in 1940 was due largely to conditions affecting price and production.

When comparing the returns on the various groups of farms per \$100 worth of feed fed, one should consider the fact that there is a wide variation in the necessary returns per \$100 worth of feed fed to pay for feed (including pasture), labor, equipment, buildings, and other costs. According to 5-year averages of complete cost studies (1933-1937), the necessary returns were: poultry, \$195; dairy cattle, \$157; hogs, \$127; and feeder cattle, \$117.

Differences in expenses are highly significant for the four groups of farms. Labor input per 100 crop acres was highest on the dairy farms, where 23.2 months of labor were used, and lowest on the general farms with the least livestock, where 18.4 months of labor were used. The dairy farmers evidently utilized a large amount of available labor to increase the size of their businesses without increasing the size of their farms.

The labor cost per crop acre ranged from \$6.80 on the general farms with the least livestock to \$8.94 on the dairy farms; the horse and machinery cost per crop acre was highest on the fruit and truck farms, where it averaged \$5.78 and lowest on the dairy farms, where it averaged \$4.50; and the improvement cost per acre averaged \$.64 on the general farms with the most livestock and \$.86 on the dairy farms.

Size of farm.--When the farm records in Farming-Type Area 9 are sorted according to the total acres in the farm, they indicate that the larger farms had a greater total investment in land, improvements, and equipment than did the smaller ones. The operators on the larger farms took in more money during the year than did those on the smaller ones; and, after deductions were made for farm business expenditures and interest on the investment, the 26 farms averaging 342 acres in size had labor and management earnings which averaged \$727 contrasted with \$386 for the 12 smallest farms. The smaller farms had higher investments per acre for land, improvements, and total investment, indicating a higher capital input. The rate earned on investment was somewhat lower for the smaller farms than for either of the other two groups, but there was a wide fluctuation in earnings in each size group.

The smaller farms were operated more intensively than were the larger ones. This variation was indicated by the much higher gross earnings per acre, by the higher land values, by the larger amount of feed fed per acre to productive livestock, and by the higher crop yields.

TABLE 5.--SIZE OF FARM RELATED TO FARM EARNINGS AND OTHER FACTORS
Accounting Farms in Farming-Type Area 9, 1940

Item	Total acres in farm		
	51 to 130	131 to 210	211 or more
Number of farms - - - - -	12	17	26
Acres per farm- - - - -	90	170	342
<u>Investments</u>			
Total per farm- - - - -	\$5 533	\$8 999	\$16 382
Total per acre- - - - -	62	53	48
Land per acre - - - - -	28	25	25
Improvements per acre - - - - -	14	12	9
Machinery per acre- - - - -	4.61	4.93	5.30
<u>Earnings</u>			
Per farm			
Gross earnings- - - - -	\$1 381	\$2 032	\$2 995
Gross expenses- - - - -	1 065	1 366	1 851
Net earnings- - - - -	\$ 316	\$ 666	\$1 144
Per acre			
Gross earnings- - - - -	\$15.40	\$11.95	\$ 8.77
Gross expenses- - - - -	11.87	8.03	5.42
Net earnings- - - - -	\$ 3.53	\$ 3.92	\$ 3.35
Rate earned on investment - - - - -	5.7%	7.4%	7.0%
Labor and management earnings - - - - -	\$ 386	\$ 568	\$ 727
<u>Size and Intensity</u>			
Percent of land area tillable - - - - -	82.0	86.0	68.6
Percent of tillable land in grain - - - - -	33.1	27.3	33.5
Percent in hay and pasture- - - - -	54.6	62.4	55.7
Feed fed per acre to productive livestock -	\$ 6.32	\$ 4.21	\$ 3.26
Percent of income from productive livestock	62.8	50.5	53.0
Percent of income from crops- - - - -	18.1	27.9	25.0
Months of labor per 100 crop acres- - - - -	29.7	20.6	17.9
Total months of labor - - - - -	15.3	17.9	23.5
Number of work horses - - - - -	2.8	3.4	4.2
<u>Crop Yields per Acre</u>			
Corn, bu. - - - - -	40.4	40.1	37.2
Wheat, bu.- - - - -	20.7	17.8	17.5
<u>Livestock Returns</u>			
Per \$100 feed fed - - - - -	\$ 170	\$ 164	\$ 159
Hog returns per litter- - - - -	65	59	77
Dairy returns per cow - - - - -	92	71	77
<u>Expense Factors</u>			
Labor cost per crop acre- - - - -	\$11.81	\$ 7.75	\$ 6.86
Horse and machinery cost per crop acre- - -	6.18	4.84	5.20
Improvement cost per acre - - - - -	1.03	1.00	.58
Land tax per acre - - - - -	.75	.57	.54

The method used to increase the volume of business depended upon the individual farm. Some farm operators apparently increased the volume of their business by improving the quality and increasing the amount of livestock; others, by growing more intensive crops, by increasing crop yields, or by developing special markets; still others, by increasing the acreage operated or by applying combinations of the above methods.

Labor and horse and machinery expenses.--Labor expenses per crop acre increase as the amount of livestock per acre increases but decrease as the size of farm increases. Horse and machinery cost per crop acre, on the other hand, remained constant as the amount of livestock per acre increased, decreased as the size of farms increased from the smallest-sized group to the middle-sized group, and then increased again as the size of the farms increased from the middle-sized group to the largest-sized group. Therefore, the efficiency of a farm in the use of labor and machinery should be determined by comparing the expenses on the individual farm with those of farms of the same size having similar amounts of livestock per acre. The average labor cost per crop acre and the average horse and machinery cost per crop acre are shown for farms grouped according to acres per farm and value of feed fed per crop acre to productive livestock (Table 6).

TABLE 6.--LABOR COST PER CROP ACRE AND HORSE AND MACHINERY COST PER CROP ACRE FOR VARIATIONS IN SIZE OF FARM AND AMOUNT OF FEED FED PER ACRE TO PRODUCTIVE LIVESTOCK
Accounting Farms in Farming-Type Area 9, 1940

Acres per farm	Feed fed per acre			Feed fed per acre		
	Less	\$3.00	\$6.00	Less	\$3.00	\$6.00
	than	to	or	than	to	or
	\$3.00	\$5.99	more	\$3.00	\$5.99	more
	(labor cost per crop acre)			(horse and machinery cost per crop acre)		
51 to 130	\$10.02	\$11.80	\$12.80	\$6.18	\$6.18	\$6.18
131 to 210	7.60	8.50	9.10	4.84	4.84	4.84
211 or more	7.12	7.40	8.65	5.20	5.20	5.20

Farm Organization and Farm Earnings by Counties and Groups of Counties

Farming-type areas are formed by grouping together counties which are similar with respect to physical, economic, and biological characteristics. Although a classification of this kind is very useful for many purposes, no two counties within an area are exactly alike. A tabulation of farm account records by counties and groups of counties indicates some of these differences which are due to variations in quality of land, topography, amount of erosion, market outlets, weather conditions, and disease hazards. The effects of variations in these factors are indicated in the account records by differences in value of land per acre, taxes per acre, percent of land area tillable, size of farm, total acres in crops, percent of tillable land in important crops, crop yields, amount of feed fed to productive livestock, and source of farm income (Tables 7 and 8).

TABLE 7.--INVESTMENTS, RECEIPTS, EXPENSES, AND EARNINGS
Accounting Farms in Farming-Type Area 9, 1940

Item	Your farm	Average of all farms
Number of farms - - - - -	--	55
<u>Capital Investments</u>		
Land - - - - -	\$ _____	\$ 5 907
Farm improvements - - - - -	_____	2 323
Horses - - - - -	_____	375
Productive livestock: Cattle - - - - -	_____	786
Hogs - - - - -	_____	172
Sheep - - - - -	_____	35
Poultry - - - - -	_____	86
Total productive livestock - - - - -	(_____)	(1 079)
Feed and grain - - - - -	_____	843
Machinery and equipment - - - - -	_____	1 061
Automobile (farm share) - - - - -	_____	145
Total - - - - -	\$ _____	\$11 733
<u>Receipts and Net Increases</u>		
Horses - - - - -	\$ _____	\$ 1
Productive livestock: Cattle - - - - -	_____	377
Dairy sales - - - - -	_____	364
Hogs - - - - -	_____	299
Sheep - - - - -	_____	39
Poultry - - - - -	_____	58
Egg sales - - - - -	_____	119
Total productive livestock - - - - -	(_____)	(1 256)
Farm products used in household - - - - -	_____	220
Feed and grain - - - - -	_____	584
Labor off farm - - - - -	_____	14
Miscellaneous - - - - -	_____	2
AAA payments - - - - -	_____	243
Total - - - - -	\$ _____	\$ 2 320
<u>Expenses and Net Decreases</u>		
Farm improvements - - - - -	\$ _____	\$ 50
Horses - - - - -	_____	--
Productive livestock - - - - -	_____	--
Feed and grain - - - - -	_____	--
Machinery and equipment - - - - -	_____	319
Automobile (farm share) - - - - -	_____	76
Hired labor - - - - -	_____	249
Miscellaneous - - - - -	_____	18
Crop expense - - - - -	_____	96
Livestock expense - - - - -	_____	19
Taxes - - - - -	_____	147
Total - - - - -	\$ _____	\$ 974
Receipts less expenses - - - - -	\$ _____	\$ 1 346
Family labor - - - - -	_____	156
Returns for labor, capital, and management - - - - -	\$ _____	\$ 1 190
Operator's labor - - - - -	_____	374
Returns for capital and management - - - - -	\$ _____	\$ 816
Rate Earned on Investment - - - - -	_____ %	7.0%
Interest on investment - - - - -	\$ _____	\$ 587
Labor and Management Earnings - - - - -	_____	603
Nonfarm income - - - - -	\$ _____	\$ 41

Influence of Price Changes on Illinois Farm Incomes

Prices of important farm products.--Prices of most livestock and live-stock products were higher at the end of 1940 than at the beginning, but prices of all grains except corn were lower.

Although many commodities were lower in price at the end of the year than at the beginning, all the principal Illinois farm products except horses and hogs averaged higher in 1940 than in 1939. The index of all Illinois farm prices averaged 5 percent higher in 1940 than in 1939. The increases for the various groups were as follows: grains, 25 percent; dairy products, 8 percent; fruits, 6 percent; and chickens and eggs, 3 percent. Meat animals decreased 4 percent because of the lower price of hogs.

A great deal of the variation in earnings between the different types of farming in Illinois is due to the constantly shifting ratios between the prices of various livestock products and between those of livestock products and grains. During 1940, the price of beef cattle was materially higher than that of hogs, other livestock, and livestock products. Likewise, the ratio of the price of cattle to the price of corn was much more favorable to the cattle feeder than to the hog feeder. In 1940, 9.2 bushels of corn equaled in value 100 pounds of live hog compared with an average of 15.4 bushels in 1939. During the fall breeding season, the ratio was very unfavorable to the hog producer.

<u>Farm product</u>	<u>December 15 farm prices</u>		<u>Average yearly farm prices</u>	
	<u>1939</u>	<u>1940</u>	<u>1939</u>	<u>1940</u>
Corn, bu.	\$.47	\$.52	\$.43	\$.56
Wheat, bu.	.88	.79	.67	.81
Oats, bu.	.35	.33	.28	.32
Barley, bu.	.44	.49	.41	.46
Soybeans, bu.	.95	.81	.74	.83
Hay, ton	6.50	7.30	6.05	6.68
Horses, head	85.00	74.00	85.00	77.00
Hogs, cwt.	5.10	5.80	6.56	5.54
Beef cattle, cwt.	8.30	9.80	8.18	8.84
Lambs, cwt.	8.20	8.80	8.18	8.52
Milk cows, head	65.00	68.00	63.00	65.00
Milk, cwt.	1.80	2.00	1.59	1.68
Butterfat, lb.	.26	.34	.23	.27
Chickens, lb.	.11	.13	.13	.13
Eggs, doz.	.19	.27	.16	.17

Variations in supplies.--Prices of farm products at inventory time influence farm earnings, because all feed, grain, livestock, and other farm property must be valued at the beginning of the year and at the end. The influence is greatest where large stocks are on hand at inventory time. Abundant feed supplies and increasing inventories have characterized the years since the drouth year of 1936. In 1940, however, the rather spotted crop situation resulted in somewhat low inventories of feed on some farms and large feed supplies on others. For the state as a whole, the corn reserves on January 1, 1941, were the smallest since 1937, reflecting not only the smaller crop but also the smaller amount of sealing that took place under the loan program. Supplies of other feed and grain crops were larger on January 1, 1941, than in 1940. According to the Division of Agricultural Statistics at Springfield, the supplies of the four major grain crops on Illinois farms on January 1, 1940, and 1941, were as follows:

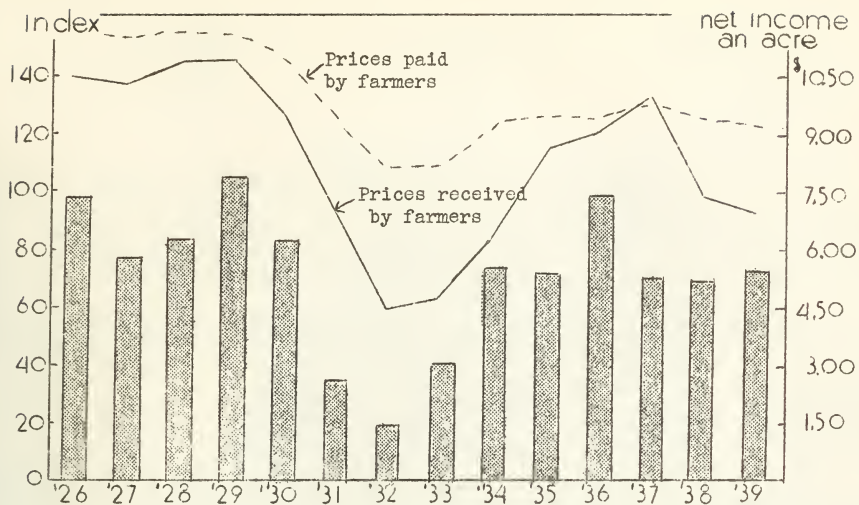


Fig. 2.--Average net cash income an acre (unpaid labor deducted) on Illinois accounting farms, prices paid by farmers in the United States, and prices received by Illinois farmers, 1926-1939.

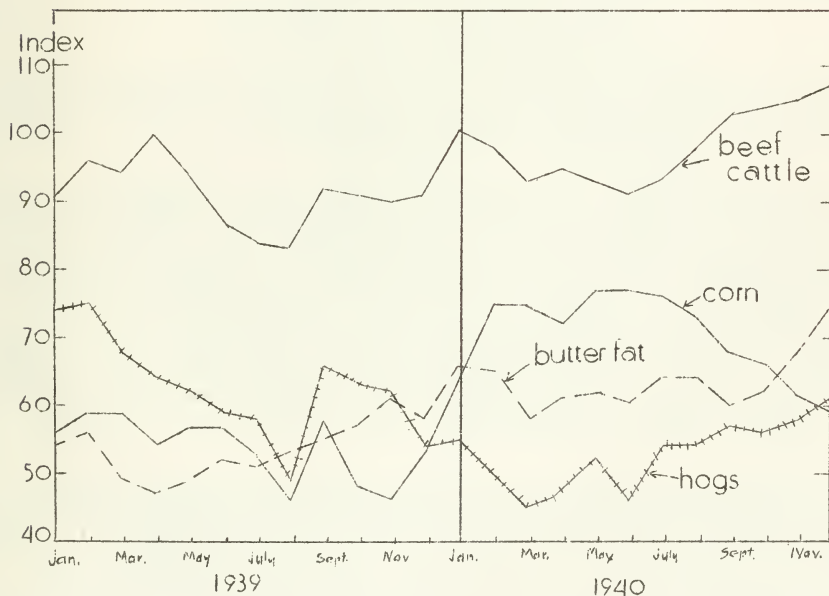


Fig. 3.--Indices of the average monthly farm prices of corn, hogs, butterfat, and beef cattle, 1939 and 1940. (1924-1929 = 100)

<u>Type of grain</u>	<u>1940</u> (million bushels)	<u>1941</u> (million bushels)
Corn	351	280
Oats	57	98
Wheat	5	8
Soybeans	15	17

On accounting farms, all livestock numbers increased in 1939 over 1938. In 1940, however, only the numbers of milk cows, beef cows, feeder cattle, and fall pigs increased; the numbers of feeder lambs, brood sows, spring pigs, and summer pigs decreased. The following data indicate the percentage increase in livestock numbers on 2,847 accounting farms during the calendar year 1940.

<u>Type of livestock</u>	<u>1940</u> (percent of increase)	<u>Type of livestock</u>	<u>1940</u> (percent of increase)
Milk cows	3	Brood sows	-2
Beef cows	10	Spring pigs	-3
Feeder cattle	12	Summer pigs	-2
Feeder lambs	- 2	Fall pigs	+9

The increase in the numbers of milk cows, beef cows, and feeder cattle was general throughout the United States. This upward swing in numbers may be expected to continue for two or three more years. The decrease in the number of brood sows, spring pigs, and summer pigs is much less than that which took place in the corn belt as a whole. Likewise, fall pigs decreased 12 percent in the United States but increased 9 percent on Illinois accounting farms.

Crop Yields in Illinois, 1940

The year 1940 was the fourth consecutive year of high crop yields in Illinois. The weighted average yield of corn, oats, wheat, and soybeans was 128 percent of the 10-year average, 1929-1938, and was within five points of being as high as in 1939, when the average yield was 133 percent.

The 1940 yields of these four crops, as expressed in percentages of the 1929-1938 averages, follow: corn, 126.8; oats, 154.9; wheat, 129.3; and soybeans, 89.2. In 1940 corn yields were higher than the average of the ten years in each of the counties of the state except Clay, Crawford, Franklin, Hardin, Jefferson, Livingston, Marshall, Richland, and Wayne; oat yields were higher in each of the counties except Union; and wheat yields were higher in each of the counties except Calhoun and Cook. Soybean yields, on the other hand, were below the average in all the principal soybean-producing counties. The counties with the highest average yields of the various crops in 1940 compared with those for the base period follow: Randolph county--corn, 170 percent; Grundy county--Oats, 199 percent; Alexander county and Whiteside county--wheat, 159 percent; and Macoupin county--soybeans, 126 percent.

The counties with the highest crop yields were located, for the most part, in northern and southwestern Illinois where weather conditions were particularly favorable for the small-grain crops as well as for the corn crop. On the other hand, the counties with the lowest crop yields were located in the south-central and southeastern areas of the state. Another group of counties which extended diagonally southeast from Knox county had spotted and moderately low crop yields in relation to the crop yields for the rest of the state. The variation in crop yields between counties and groups of counties as well as between communities, townships, and even individual farms was greater than usual in 1940 because of differences in rainfall and other climatic conditions.

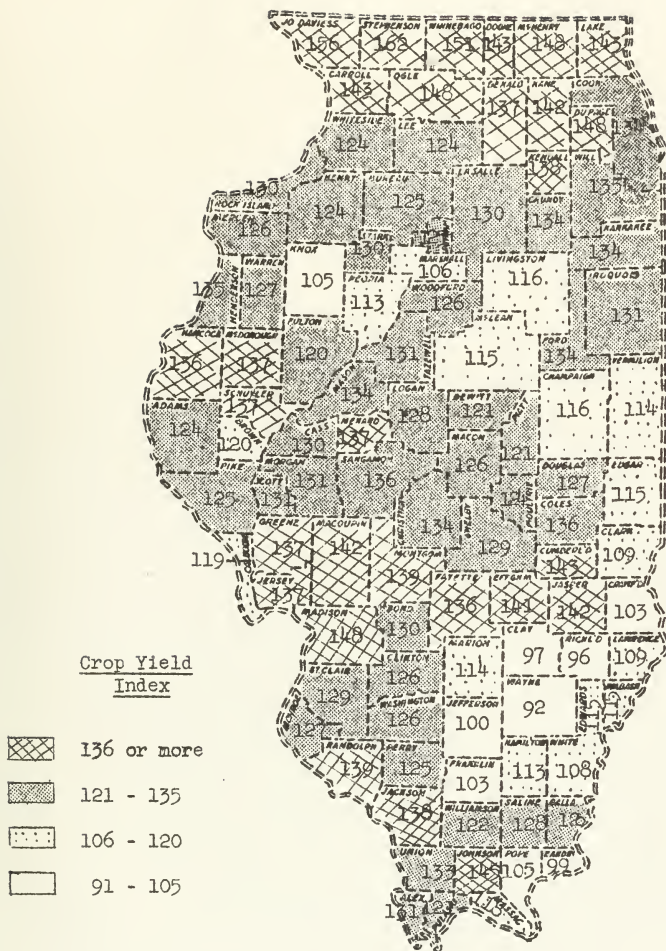
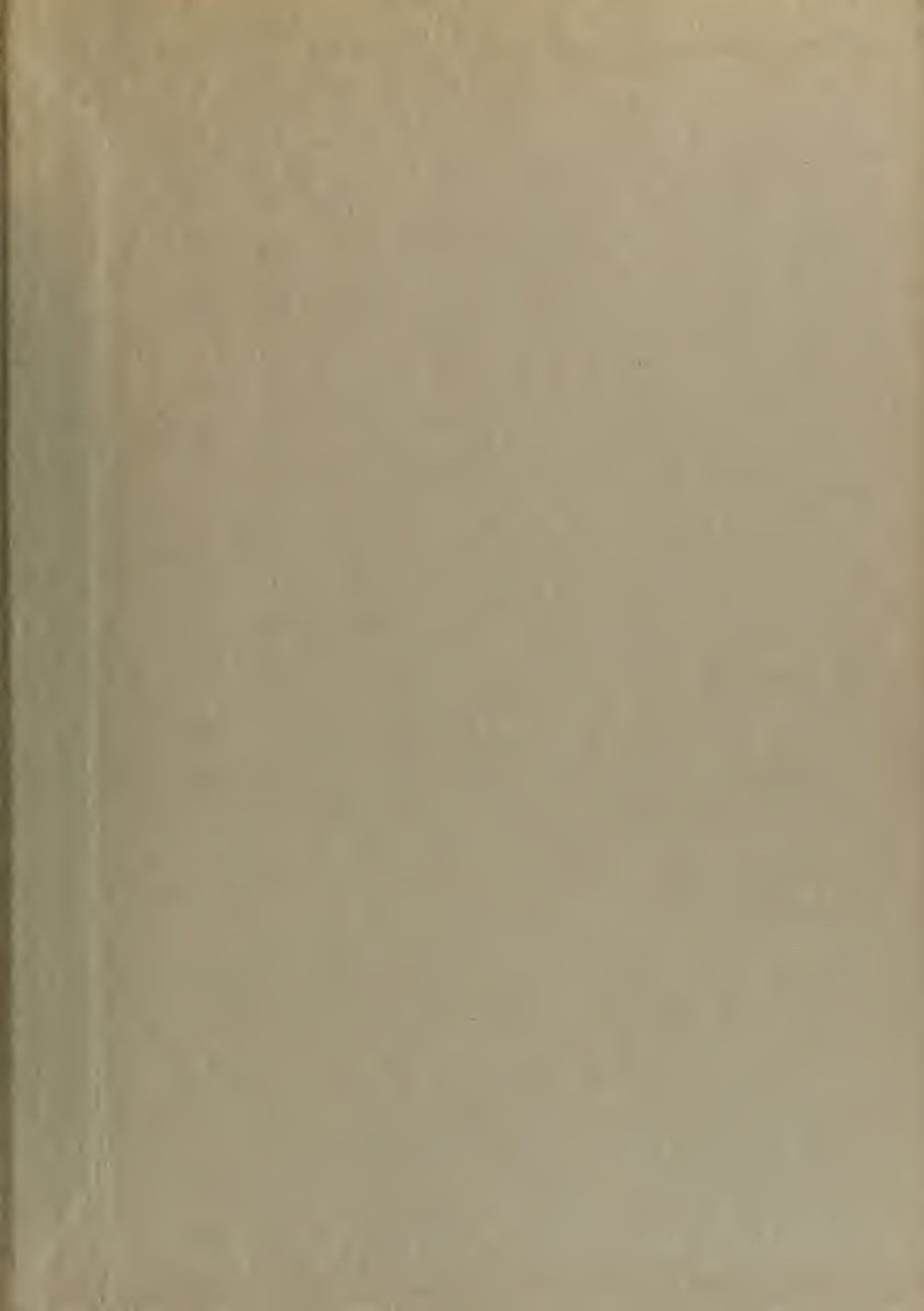


Fig. 4.--Crop yields for 1940 compared with 10-year average yields (1929-1938) for the same county. The indices are based on county yields of corn, oats, wheat, and soybeans. (Data from Illinois Cooperative Crop Reporting Service.)

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